



The SAGE Encyclopedia of

Contemporary Early Childhood Education

Edited by

Donna Couchenour and J. Kent Chrisman



The SAGE Encyclopedia of Contemporary Early Childhood Education

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Volume 1

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Donna Couchenour is professor emerita of early childhood teacher education at Shippensburg University of Pennsylvania where she has served as early childhood chair for both undergraduate and graduate programs. She received her bachelor's degree in elementary and early childhood education from Clarion University of Pennsylvania, her master's degree in child development from West Virginia University, and her Ph.D. in human development and family studies from The Ohio State University. Couchenour has been a faculty member in early childhood teacher education for more than 30 years and has been employed as a laboratory school director at both West Virginia University and Oklahoma State University, as a Head Start teacher and director, and as a military child care training and curriculum specialist. She has taught courses on child development, the early childhood education profession, curriculum and assessment, and partnerships for family engagement and has supervised internship experiences at various student levels. With her coeditor of this work, she has published three books: *Families, Schools and Communities: Together for Young Children*, currently in its fifth edition; *Healthy Sexuality Development in Young Children*; and *In the Field: Guided Field Assignments and Readings in Early Childhood Education*. Couchenour was selected and has served as an early childhood teacher preparation program reviewer and audit team member for the National Association for the Education of Young Children (NAEYC) and as a Board of Examiners member for the National Council for the Accreditation of Teacher Education (NCATE, now Council for the Accreditation of Educator Preparation [CAEP]).

J. Kent Chrisman is professor of early childhood education at Shippensburg University of Pennsylvania. He received his bachelor's degree in psychology from Hendrix College, his master's degree in early childhood education from George Peabody College for Teachers, and his Ed.D. in educational supervision from the University of Louisville. Chrisman has been a faculty member in early childhood teacher education for more than 30 years as well as serving as a laboratory school director at Stephen F. Austin State University in Texas (infants through first grade) and in a public school partnership laboratory school in Pennsylvania (PreK–6). He has taught courses in curriculum, child development, and partnerships for family engagement and has supervised internship experiences at various student levels. With his coeditor of this work, he has published three books: *Families, Schools and Communities: Together for Young Children*, currently in its fifth edition; *Healthy Sexuality Development in Young Children*; and *In the Field: Guided Field Assignments and Readings in Early Childhood Education*. In addition, he is a coauthor of *Teaching Young Children Mathematics* and *Young Children and Social Studies*. As Pennsylvania made strides to strengthen early childhood teacher preparation, Chrisman was invited to participate as a member of a statewide committee that recommended standards and programming to the state board of education. Appointed by the governor, he also served as a member of the Pennsylvania Early Learning Council. He has also served as president of the Pennsylvania Association of Early Childhood Teacher Educators and as president of three state affiliates of the National Association for the Education of Young Children in Texas, Kentucky, and Pennsylvania.

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Introduction

The Field

Early childhood education refers to the education of all young children, typically and atypically developing, from birth through 8 years of age. Early childhood educators may have experience and professional preparation with this entire age range, or they may have specialized experiences with infants and toddlers (birth–3 years), preschoolers (3–5 years), kindergartners (5–6 years), or primary grade-age children (6–8 years). Their expertise may be with typically developing children, children with special needs, or inclusive programming. Goals for early childhood educators include providing education that is developmentally appropriate for individual children and facilitating effective family engagement that supports children’s optimal development.

The field of early childhood education has diverse roots and continues to be multidisciplinary in nature in that research and theory from several fields have been integrated into the study of teaching young children. To understand historical foundations of early education in the United States, one must look to child development, educational theory and practice, family science, social work, and neuroscience. Even though all states in the union (as it existed then) had public schools by 1870, it was not until after the mid-20th century that kindergarten became more common in public elementary school designs. Early public kindergarten programs were almost universally part-day, but now many full-day kindergarten programs exist.

As an aspect of President Lyndon Johnson’s War on Poverty, Head Start programs were implemented for the first time in 1965. Although not without critics, Head Start is widely viewed as a

successful comprehensive early education and family support program for low-income families. Federal and state funding continues for Head Start even though there have been frequent threats to severely or totally cut budgets. Although state-funded preschool programs for children ages 3 to 5 years are appearing in many states today, universal preschool remains a pipe dream for many early education policy experts. Funding and criteria vary by state.

Often overlooked as a stream of early childhood education, child care programs have steadily grown in number since the 1970s when the economy and the women’s movement led to many mothers working outside the home. Most child care centers remain privately owned, but many states now offer financial support and professional development for those who participate in quality improvement programs. Child care centers typically offer full-day care for children from 6 weeks old through prekindergarten age.

Although this encyclopedia defines the early childhood years as birth through 8 years of age, or third grade, some sources and policies continue to define early childhood education as programs for children from birth through 5 years of age. This has been a rather serious source of contention since traditionally public schools have included first through sixth (and earlier, first through eighth) grades as elementary education. In recent decades, teacher certification offered by states often includes kindergarten through sixth grade with the licensure to teach elementary school. In the late 1960s and early 1970s many states created early childhood education licenses, but there was often an overlap with elementary licensure in pre-kindergarten through third grade. School boards,

principals, and superintendents often saw those with the early childhood education licenses as less desirable hires because administrators would have greater limitations in moving these teachers to other grade levels in order to meet each year's enrollment needs.

Research that has examined effects of early childhood teacher licensure on young children's development and learning is difficult in that licensure programs vary in emphasis (e.g., developmental versus subject matter) and quality. Individual teacher candidate variables are difficult to assess as well. The National Association for the Education of Young Children has created a position statement with standards that are necessary for early childhood teacher preparation programs. This position statement is based on existing evidence for preparing teachers of young children, from birth through third grade. Additionally, the National Association of Early Childhood Teacher Educators (NAECTE) has produced a position statement regarding the need for teachers of children ages 8 years and younger to earn an early childhood teaching license, saying, "If children are to thrive in school and meet current expectations for achievement they need teachers who have specialized knowledge of child development and best practices in early childhood education" (NAECTE, p. 2). Although there is strong confidence within the field about how best to prepare teachers of young children, political and managerial factors in elementary school settings too frequently lead to overlooking the importance of professional preparation specific to early education in hiring processes. Early childhood teacher preparation specifically includes knowledge of child development for planning age-appropriate curriculum and instruction and for guiding children's behavior, knowledge about the importance of reciprocal partnerships with families, and ability to assist children and families as they transition from early childhood settings to elementary schools.

Currently, a movement has been garnering attention based on strong evidence that points to the importance of a prekindergarten through third grade alignment of curriculum goals and assessment. In brief, positive child outcomes from

high-quality preschool programs have been shown to have greater longevity when talented and credentialed early childhood teachers who have the ability to create aligned systems are hired to teach young children through the third grade.

Because early childhood includes education for all children in the birth through 8 years age range, programs of early intervention are also included in this encyclopedia. When children are assessed as having one or more disabilities, the most effective interventions occur early and are both intensive and extensive in nature.

In all early childhood education formats, family engagement is an essential element for successful child outcomes. Strong early childhood professional preparation programs include information about the importance of creating reciprocal partnerships with children's family members as well as strategies and experiences for engaging families in their children's learning. Successful early childhood educators do not see family engagement as optional, but rather as an essential component for optimal outcomes for each child.

As pointed out in the 2015 report from the Institute of Medicine (IOM) and National Research Council (NRC) at the National Academy of Sciences, *Transforming the Workforce for Children Birth Through Age 8: A Unifying Foundation*, our current understanding of providing the best education for young children from birth through age 8 requires immediate attention to professional preparation of early childhood educators and leaders. The report states: "For too long, the nation has been making do with the systems and policies that *are* rather than envisioning the systems and policies that are *needed*, and committing to the strategies necessary to achieve them" (IOM & NRC, p. 15). To support early childhood education as a discipline, professionals must be educated with the content and pedagogical knowledge and skills necessary for teaching all young children and especially those who are most vulnerable.

Topics presented in this encyclopedia include, but are not limited to, the following:

Assessment—limitations of assessment, authentic assessment, checklists and rating scales, developmental

assessment, developmental screening instruments, intellectual assessment, interpreting assessment data, mental health assessments, Classroom Assessment Scoring System (CLASS)

Associations—National Association for the Education of Young Children, National Center for Children in Poverty, National Head Start Association, National Institute for Early Education Research, Ounce of Prevention Fund, Resources for Infant Educators, ZERO TO THREE

Child Care—Family child care, center-based care, child care policy and practice, child care quality and young children's behavior, military child development centers

Child Development—Typical development, atypical development, brain development, child care assistance and child development, child development and early childhood education, determinants of child development, early number representation development, executive functioning, home-based early childhood education, neuroscience and early education

Child Development–Cognition—imagination, multiple intelligences, pretense, reasoning and problem solving, spatial development, social class effects on development and learning, theory of mind, thinking

Child Development–Language/Literacy—language development, language disabilities, language diversity, literacy, literacy assessment, literacy-enhanced props, oral language development, speech development, vocabulary

Child Development–Physical/Motor—healthy choices and young children, physical education, sensory development, sensory integration, sexuality development, sleep

Child Development–Social/Emotional—young children's understanding of grief and loss, guiding behavior, guidance with girls, initiative and industry, trust, autonomy, mental health services, mindfulness,

moral development, mutual regulation model, prosocial behavior, shyness in young children

Collaboration—transitioning, Oklahoma's quality initiatives, community partnerships, community–university partnerships, business partnerships, caring communities

Curriculum—art, arts integration, approaches to early mathematics instruction, Bank Street, children's literature, children's writing, the work of Sylvia Ashton-Warner, Common Core State Standards, constructivist curriculum, The Creative Curriculum, curriculum and early childhood education, emergent curriculum, family engagement in curriculum, HighScope, infant and toddler programming, infant signing, integrated curriculum, key words, children's understanding of measurement, Montessori programs and environments, movement education, music, the project approach, reading, the Reggio Emilia approach, science, social studies topics, standards, storytelling and story acting, Tools of the Mind, theater

Diversity—inequality from birth, family structure diversity, ethnic differences and families, equity and equality in early childhood, dual language learners, strategies for dual language learners, diversity in early childhood education, development of prejudice, cultural competence, bias, professional development for diversity

Early Intervention—recommended early intervention practice guidelines, personnel preparation for early intervention, physical disabilities, home-based early intervention practices, home visitation with mothers and infants and children, legal basis for early intervention, early childhood inclusion, developmental disabilities, autism spectrum disorder, attention-deficit/hyperactivity disorder, assistive technology in early intervention

Environments—accreditation, challenging and supportive climates, child development laboratory schools, Comer schools, community schools, healthy environments for social-emotional development, infant rooms, kindergarten environments,

looping, multiage spaces, outdoor play spaces, preschool rooms, toddler rooms, primary grade learning spaces

Families—religion and families, refugee children, sibling relationships, substance abuse and addiction, teen pregnancy and parenting, transition to parenthood, violence in families, work and families, parenting effects on child development, parents as teachers, parenting support and education, family life education, mothers, fathers, grandparent roles, family-centered practices

Play—play and early childhood education, guided play, importance of free play, rough and tumble play, economic differences in play, cultural variations in play, commercialism, child-initiated play, recess, noncurricular play

Policy and Advocacy—child care policy and practice, early childhood education and crime, data-based child advocacy, early childhood education systems, early childhood special education, effective advocacy practices, high-stakes standards-based accountability reform, history of early childhood education policy

The Profession of Early Childhood Education—early childhood education, play and early childhood education, preservice teacher preparation, pedagogical knowledge, content knowledge, accountability in early care and education, conceptual framework for teacher preparation programs, coaching, defining early childhood education, developmentally appropriate practice

Teaching and Learning—approaches to learning, classroom processes, cooperative learning, differentiated instruction and assessment, early childhood science experiences, engaging conversation, grade retention, inquiry-based learning, kindergarten, primary grades, the National Early Literacy Panel, prekindergarten

Theories and Models—anti-bias education theory, behavioral theory, bioecological theory, cognitive developmental theory, constructivism, critical the-

ory, maturational theory, models, sociocultural theory, stage theories, psychosexual theory, psychosocial theory

The SAGE Encyclopedia of Contemporary Early Childhood Education contains 10 anchor essays that are lengthier, providing readers with more depth than other entries. In each case, a highly regarded expert in the field was selected to write the anchor. In alphabetical order, the anchor entries and authors are as follows:

Child Development and Early Childhood Education
Martha Buell

Curriculum and Early Childhood Education
Lawrence J. Schweinhart

Developmentally Appropriate Practice
Heather Biggar Tomlinson

Early Childhood Education
Anne Douglass

Early Childhood Teacher Education
Tracy E. Collins

Early Intervention
Rosa Milagros Santos and Kimberly Hile

Ethics in Early Childhood Education
Stephanie Feeney and Nancy K. Freeman

Kindergarten
Daphna Bassok and Tashia Abry

Play and Early Childhood Education
James E. Johnson

Policy and Early Childhood Education
Holly S. Schindler

Rationale for the Encyclopedia

Whereas some programs and various aspects of high-quality early childhood education have been present for well over two centuries, in the United States today, awareness of early childhood education as a distinct field of study and teacher preparation is increasing. Yet, traditional boundaries remain a barrier in both professional preparation and school formats. This encyclopedia was created

with an emphasis on early childhood education as a multidisciplinary field based on theoretical, empirical, and practical evidence that supports the birth through 8 years definition.

Designed as a reference to introduce essential components of early childhood education to undergraduate students and graduate students in all licensure areas of teacher education and in other school professional preparation programs and to practicing teachers and other school professionals who wish to gain current information, this resource provides access to a basic level of understanding. Further, because education is funded and regulated by numerous federal, state, and local agencies, this encyclopedia provides expert information to policy makers.

Content and Organization

As this encyclopedia was designed by the editors and editorial board members, efforts were made to be all-inclusive of topics currently studied by early childhood education professionals. We hope that we have met the challenge of inclusiveness without being overly redundant.

A reader's guide is provided to assist readers in navigating the encyclopedia. A list of entries in alphabetical order, along with cross-references, is provided.

How the Encyclopedia Was Created

The SAGE Encyclopedia of Contemporary Early Childhood Education was developed through these steps:

Step 1—The general editors invited Jennifer Pyles to serve as managing editor for this work. Together, they identified and contacted leading early childhood education experts in the United States to serve on the editorial board with attention given to balancing board members' areas of expertise (e.g., curriculum, child development, families, and play).

Step 2—A master list of topics was created by the general editors and managing editor, beginning with the list that was sent to SAGE in the prospectus for this project. In doing this, we examined

major textbooks and journals for topics. We also reviewed national standards for teacher preparation to ensure that topics related to child development, family engagement, assessment, teaching and learning, curriculum, professionalism, and fieldwork/praxis were included.

Step 3—Contributors were identified by the editors and editorial board members. We also searched for authors for particular entries through Google Scholar. As authors responded, we sometimes changed the terminology of entries to better align with current trending topics. Although we had a high rate of acceptances, we found that many of our colleagues have commitments that prohibit or limit them from accepting new invitations for writing projects. Early childhood education faculty members, in particular, seem to have very heavy teaching and research loads, yet so many were willing to commit to this "gift" for the field. Contributors run the gamut of venerable experts to up-and-coming scholars.

Step 4—Authors of entries were given basic guidelines and instructions from SAGE and also guidelines for accessing the SAGE Reference Tracking (SRT) system. The invitation letter explained the need for thoroughness of the topic along with the importance of using accessible language. Our managing editor and SAGE staff were responsive to authors as they posed questions and made suggestions.

Step 5—The general editors reviewed all entries and requested content revisions as necessary. After final review, editors sent final drafts to SAGE for transmission for publication. Authors were informed of the status of their submissions throughout the process.

Step 6—The general editors created a list of annotated websites and associations for the back matter of the encyclopedia.

Acknowledgments

This encyclopedia has been a tremendous undertaking and would not have been possible without support and contributions from many extraordinary people! The general editors sent a prospectus

to SAGE and received huge support from Jim Brace-Thompson as we navigated the acceptance tasks. As soon as we received the contract, we invited Jennifer Pyles and Annie Papero to serve as managing editors. Although Annie worked with us only a short time due to a change in her professional goals and relocation, her enthusiasm and knowledge base are reflected in the end product. Jennifer picked up the entire project and worked diligently to send out invitations and communicate with sensitive responses to contributors while continually checking in with the general editors and SAGE staff. Without Jennifer's talents and efforts, this encyclopedia would not be the outstanding resource that it is!

Early in our work, Shirin Parsavand was assigned as our developmental editor. She helped us in defining this work as well as in editing the entries. We value Shirin's suggestions and experience in all of the technical aspects of our work on this encyclopedia. We were also fortunate to have Anna Villaseñor and Leticia Gutierrez as support from SAGE.

Our editorial board members were essential with their assistance to ensure that we would have an inclusive and balanced reference work. Many of them contributed one or more outstanding entries and made recommendations for topics and authors in their areas of expertise. Alphabetically, board members are Nancy Barbour, Harriet Dichter, Jo Ann M. Farver, Stephanie Feeney, Marcy Guddemi, James E. Johnson, Marjorie Kostelnik, Lawrence J. Schweinhart, and Heather Biggar Tomlinson. We were saddened to learn of Kevin Swick's passing during the summer of 2014. He was instrumental in assisting with content during

the early conceptualization of this work, particularly in the area of family engagement.

We can never offer enough gratitude to our gracious contributors. They provided us with current content written in accessible language and met deadlines that were sometimes nearly impossible given their other commitments. On a personal note, we were so fortunate to have friends and family who encouraged and supported us in the completion of this project.

*Donna Couchenour and
J. Kent Chrisman*

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ABECEDARIAN PROJECT

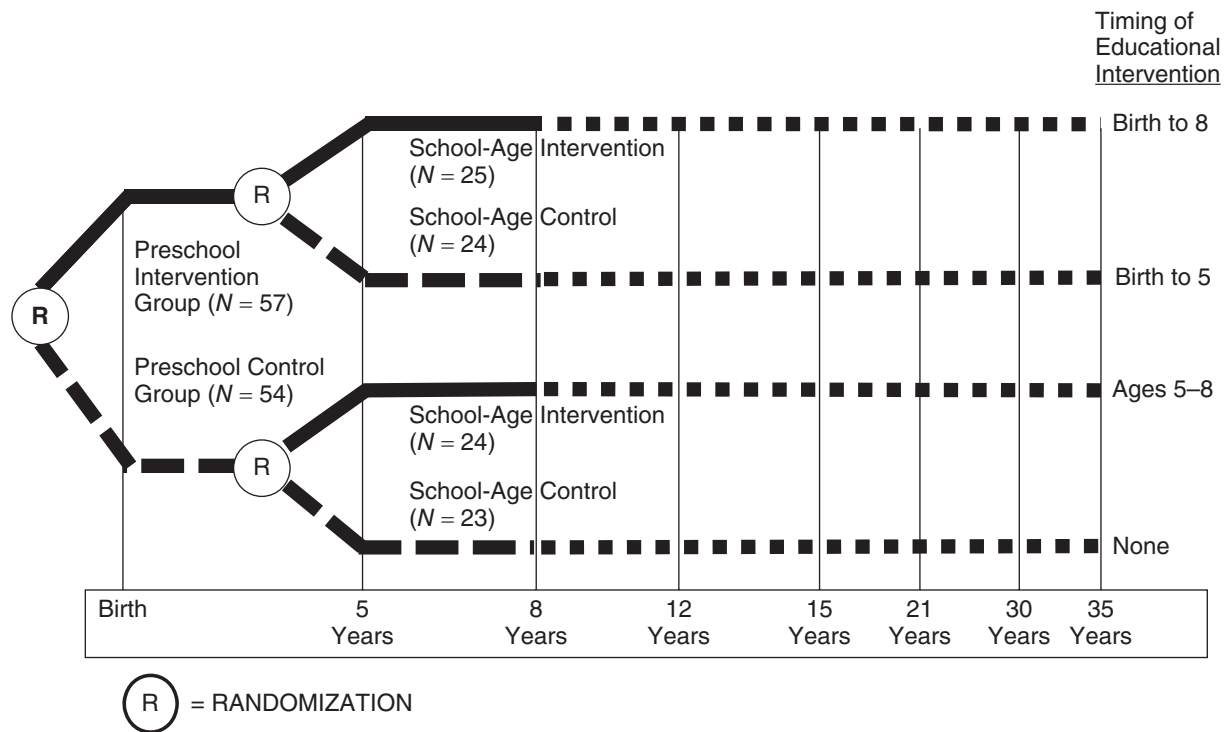
The extent to which the life course of intellectual development is positively modifiable by systematic interventions is a topic of general interest, with more than a half-century of scientific inquiry with strong public policy implications. Systematic public education has been the most direct policy response to this topic. Middle- and upper-class families in the United States spend billions of dollars to provide their children with good education as a pathway to adult success. The most extensive scientific research, however, about the power of education to change intellectual development has been conducted with children from poor and undereducated families who are at elevated risk for lack of school readiness, subsequent poor academic performance, and a long list of social and economic shortcomings. This entry describes the creation, conduct, and results of one pioneering experimental educational program for disadvantaged children conducted from birth to 8 years of age—the Abecedarian Project.

The experimental treatment was named the Abecedarian educational approach and focused on increasing children's kindergarten readiness and early school performance in reading, mathematics, and other academic skills. This entry summarizes findings showing that the Abecedarian educational approach improved participants' intellectual development and kindergarten readiness. The

Abecedarian educational approach has also been found to strengthen performance in reading and mathematics, with the largest benefits realized when the first five years of educational intervention are combined with a kindergarten through second grade (K–2) intervention. Follow-up research on participants and comparison students through age 35 shows that the Abecedarian educational approach leads to reduced grade retention, special education placement, drug use, depression, and welfare dependence as well as a greater likelihood of attending and graduating from college and having better adult health. Independently analyzed data suggest a greater than 3:1 return on investment up to early adulthood.

Building on a series of basic laboratory studies on early infant learning, summarized by John Watson and Craig Ramey in 1972, the Abecedarian Project began in 1971 with a 1-year pilot program and fully launched in 1972. The Abecedarian Project began as the first, and still only, two-stage randomized controlled trial (RCT) of the effects of early childhood education in the first 8 years of life. The central research question was: To what extent can providing high-quality early education to children from extremely impoverished and undereducated homes *prevent* intellectual disabilities, *promote* cognitive and positive social outcomes, and *improve* lifelong health and well-being?

Phase 1 randomly assigned infants to receive 5 continuous years of a theory-guided early educational program or to a control group. Both groups

Figure 1 Two-Phase Design of Abecedarian Project

Source: Adapted from Figure 2, Design of Abecedarian Project, p. 7. Ramey, C. T., Campbell, F. A., Burchinal, M., Skinner, M. L., Gardner, D. M., & Ramey, S. L. (2000). Persistent effects of early childhood education on high-risk children and their mothers. *Applied Developmental Science*, 4, 2-14.

received health, social, and nutritional supports. Phase 2 then randomly divided each of the phase 1 groups into two new groups—one received a school-age supplementary program from kindergarten through Grade 2, whereas the other did not. Figure 1 shows the overall research design and the primary follow-up occasions.

Scientific and Educational Contexts

Children who live in poverty disproportionately show intellectual disabilities compared to the general population. These intellectual disabilities have many causes and correlates, but frequently no identifiable biological causes can be found for the disabilities. In 1961, J. McVicker Hunt in his landmark book, *Intelligence and Experience*, proposed that the low quality and amounts of early learning experiences for children from intergenerationally poor families were an important cause of their subsequent low

level of intellectual performance. The Abecedarian Project built upon this broad hypothesis and the infant learning studies alluded to earlier with further specification that the following types of early experiences are crucial to support healthy intellectual development and school achievement: (a) responsive caregiving from adults; (b) conversational and informative language with caring adults; (c) exposure to books and warm conversational reading beginning in early infancy; and (d) an individually paced comprehensive educational curriculum within a child development center that was designed to be developmentally supportive, positive, and fun-filled. These types of experiences were systematically infused into more than 500 specially created and evaluated activities that comprise the 5-year Abecedarian educational curriculum, which includes these activities that were referred to as “learnin-games” and have been published, in part, in multiple formats and languages over the past four decades.

Cultural and Social Context

The Abecedarian Project took place in Chapel Hill, North Carolina, a fast-growing southern university town that, although generally socially liberal, did not fully racially integrate its public school system until 1968—14 years after the *Brown v. Board of Education* Supreme Court decision that ruled racially segregated school systems were inherently unequal. From 1970 to 2010, the town grew from roughly 26,000 to 57,000 because of university expansion, the growth of the burgeoning nearby Research Triangle Park, and an increase in relatively affluent retirees. Chapel Hill is contiguous with Carrboro, a town of approximately 20,000. The two towns share a school system. In 1972, when the study began, there were 33 separate social, housing, health, and welfare programs designed and staffed to assist economically disadvantaged families. Thus, the town and school systems were dedicated to a vigorous programmatic approach to improving the lives of disadvantaged families and their children.

Unemployment in the Chapel Hill/Carrboro geographic area was typically below 3% and the towns were buffered to a great extent from negative macroeconomic trends. The Chapel Hill/Carrboro area had an African American population of approximately 10%. Although some African Americans in Chapel Hill/Carrboro were affluent and highly educated, the vast majority were poor and undereducated. The Chapel Hill/Carrboro area was generally affluent and highly educated, with the university, its associated hospitals and clinics, and city and regional government being the major employers.

Steps to Creating Abecedarian Program

Recruitment and Enrollment

Pregnant women were screened through prenatal clinics, social service agencies, and hospital nurseries using a weighted 13-item high-risk index (shown in Table 1). Families that received a high-risk index score above 11 were invited to participate and told about the random assignment to different treatment groups. Of the 111 enrolled

families, 98% were African American and 2% were non-Hispanic White. The majority (76%) were female-headed households, and 66% of the mothers had educational levels below high school graduation. The mean IQ of mothers was approximately 80, 20 points below the average score of 100.

Shortly after birth, infants were randomly assigned to the early childhood educational treatment with 57 participants or control group with 54 participants. At entry into kindergarten (on average, at age 5), children were randomized again to a school-age educational program for the first three school years, from kindergarten through the summer after Grade 2. Thus, the participants' exposure to early childhood intervention ranged from a high of 8 years (combining the first five years of early childhood education and the primary grades), to 5 years in early childhood only, to 3 years in the primary grades only, to no systematic educational intervention. By age 5, the number of participating children was 105 (4 children died, 1 was withdrawn by the mother, and 1 proved ineligible because of a biological impairment not detected at birth).

Over the first 35 years, sample attrition remained at less than 10%—yielding high cohort maintenance that minimizes potential bias in the results. Further details, study design, and participant characteristics are included in the 2012 book by Craig Ramey, Joseph Sparling, and Sharon Ramey titled *Abecedarian: The Ideas, the Approach, and the Findings*.

Creating the Abecedarian Child Development Center

The Abecedarian educational program was delivered in a new building of the Frank Porter Graham Child Development Center (now Institute) at the University of North Carolina at Chapel Hill. Located away from the main campus and on the grounds of a new elementary school, the building afforded a generally “open” interior architecture for newly designed classrooms and educational spaces. Teachers and research staff were recruited and trained to deliver the planned educational program.

Table 1 High-Risk Index

<i>Factor</i>	<i>Weight</i>
Mother's educational level (last grade completed)	
6	8
7	7
8	6
9	3
10	2
11	1
12	0
Father's educational level (last grade completed)	
6	8
7	7
8	6
9	3
10	2
11	1
12	0
Family income (\$ per year)	
1,000	8
1,001–2,000	7
2,001–3,000	6
3,001–4,000	5
4,001–5,000	4
5,001–6,000	0
Father absent for reason other than health or death	3
Absence of maternal relatives in local area (i.e., parents, grandparents, or brothers or sisters of majority age)	3
Siblings of school age who are one or more grades behind age-appropriate grade or who score equivalently low on school-administered achievement tests	3
Payments received from welfare agencies within past 3 years	3
Record of father's work indicates unstable and unskilled or semiskilled labor	3
Records of mother's or father's IQ indicates scores of 90 or below	3
Records of sibling's IQ indicates scores of 90 or below	3
Relevant social agencies in the community indicate that the family is in need of assistance	3
One or more members of the family has sought counseling or professional help in the past 3 years	1
Special circumstances not included in any of the above that are likely contributors to culture or social disadvantage	1

Source: Adapted from Table 1, High-Risk Index, p. 3, Ramey, C. T., Campbell, F. A., Burchinal, M., Skinner, M. L., Gardner, D. M., & Ramey, S. L. (2000). Persistent effects of early childhood education on high-risk children and their mothers. *Applied Developmental Science*, 4, 2–14.

Note: Criterion for inclusion in high-risk sample was a score of more than 11.

Establishing the Educational Treatment and Control Conditions

To test the power of early childhood education to improve school readiness, it was important to control other influences already known, or strongly suspected, to be important for normal child development. Thus, children in both treatment and control groups were provided with free or reduced-cost medical care, nutritional supplements, and family support social services during the first five years of life. Mothers and children in both groups used these adjunct services at equally high rates. This design feature was to emphasize that the primary difference between the groups was the 5 years of the Abecedarian educational program, beginning when infants were 6 weeks to 3 months of age (in an era when infant day care was rare). The program was provided on 5 weekdays from 7:30 a.m. to 5:30 p.m. for 50 weeks each year.

To ensure full participation, transportation for all children was provided via specially equipped vans staffed with qualified drivers and center teachers or assistant teachers. Monthly parent meetings were held to engage and educate parents, as well to offer social support and meals. Teachers typically had bachelor-level degrees or higher, and assistant teachers had taken some college classes. Both teachers and assistant teachers participated in extensive preservice and in-service professional development on a weekly basis. Table 2 summarizes key components of the treatments given to the preschool educational and control groups. Unlike other studies of early childhood education that offered no extra supports to the control group, the Abecedarian Project focused on providing a stringent scientific test of the hypothesis that a systematic, high-intensity, and high-quality early childhood education program per se would positively impact children's intellectual and academic outcomes.

Creating the Abecedarian Curriculum

The educational curriculum was developed by a curriculum development team in conjunction with the research staff. The comprehensive birth to age 5 educational program focused on the following domains of development: language and

communication skills, social and emotional skills, cognitive skills, and motor and coordination functionality. The Abecedarian approach explicitly incorporated the following features in the curriculum and everyday exchanges (that were labeled as learning sets) between adults and children and among peers:

- Using adults as resources
- Allowing children to control aspects of their immediate environment
- Promoting use of both expressive and receptive language extensively
- Detaching self from caregiving adults and exploring independently
- Exhibiting sustained attention behavior
- Responding frequently with positive approach to new objects or persons
- Adapting and adjusting well to changes in environment
- Executing multi-step activities
- Anticipating consequences
- Generating specific instances of an educational concept by guidance of a general rule

Establishing a Multidisciplinary Research Team

Because the Abecedarian approach was an innovative and intensive scientific probe into human malleability using an RCT design, it required an interdisciplinary team to be comprehensive in its orientation and vigilant about potentially harmful side effects. The Abecedarian multidisciplinary team included curriculum developers, teachers, assistant teachers, home visitors, social workers, pediatricians, nurses, nurse practitioners, developmental and clinical psychologists, special educators, and linguists, as well as postdoctoral fellows and graduate students. The teachers and assistant teachers participated in professional development activities on a preservice and weekly in-service basis. Extensive data about children's activities in the preschool and their health and biological functioning (e.g., growth, infections) were collected, analyzed, disseminated, and discussed. When detected, health or behavioral problems were addressed in a timely manner for children in both treatment groups. Multiple methods of

Table 2 Summary of Abecedarian Preschool Treatment and Control Conditions

<i>Preschool Treatment Group</i>	<i>Educational Control Group</i>
Nutritional Supplements	Nutritional Supplements
Family Support Social Services	Family Support Social Services
Pediatric Care and Referral	Pediatric Care and Referral
Early Childhood Education	
6 weeks to 5 years of age	
Good teacher-to-child ratios and a year-round program that met or exceeded NAEYC Standards	
Developmentally appropriate practices	
Hours of operation: 7:30 a.m. to 5:30 p.m.	
<i>Partners for Learning</i> curriculum plus other documented approaches	
Preservice and in-service training of teachers	
Individualized learning experiences in natural preschool atmosphere	
Emphasis on language, cognition, social, emotional, and physical development	
Promotion and support for parent involvement	
Daily transportation	

Source: Adapted from Table 3, Summary of Abecedarian Preschool Treatment and Control Conditions, p. 5, Ramey, C. T., Campbell, F. A., Burchinal, M., Skinner, M. L., Gardner, D. M., & Ramey, S. L. (2000). Persistent effects of early childhood education on high-risk children and their mothers. *Applied Developmental Science*, 4, 2–14.

Note: NAEYC = National Association for the Education of Young Children.

observation and daily documentation were used to monitor adherence to the Abecedarian educational protocol and to prevent “program drift.” When needed, corrective actions were taken.

Phase 2: The Kindergarten to Second Grade (K–2) Home/School Resource Program and Summer Camp Programs

Rationale

As the Abecedarian Home/School Resource K–2 Program was being developed, surveys and focus groups with parents and elementary school teachers were conducted to understand their perspectives and expectations. Parents were very clear about wanting their children to be successful in school—something that had eluded most of the parents. The teachers were also clear that if the children came to kindergarten with good behavior and social skills,

then they were prepared to teach them the academic subject matter that focused on reading, mathematics, science, and social studies. The parents expressed some uncertainty and general lack of confidence in exactly how to help their children academically as well as a general uneasiness or fear about becoming directly involved in the schools. As mentioned earlier, the local public schools were not racially integrated until 1968 and many of the parents had attended racially segregated schools, had also dropped out before going to high school, and/or had struggled academically before dropping out. Thus, their unease with the current public school system was understandable.

The elementary school teachers were almost exclusively White as was the student population that closely resembled the highly educated population of the university town. The school system was generally regarded as academically excellent and

typically ranked number one or two in the state educational system based on standardized test scores. Many resources were available to help close the achievement gap between advantaged and disadvantaged children. In the kindergarten classes the Abecedarian children attended, the typical mother was a college graduate and the typical father had or was working on an advanced degree. In studying a representative randomly selected sample of classmates of the Abecedarian children each year, it was learned that the average kindergarten peer had an IQ of around 115 and that only one in eight children were from poor families. Almost all of the White children were from middle- and upper-income families. This fact undoubtedly contributed to social class consciousness and some stigmatization of the Abecedarian Project participants.

Random Assignment

Abecedarian Project experimental and control children were assigned randomly to the K–2 educational program, using a matched pairs design that rank-ordered children based on IQ scores taken when the children were 48 months old. Phase 2 provided a first-ever opportunity to experimentally compare the effects of early educational intervention for the first five years of life alone with those of receiving a high-quality K–2 educational intervention only, as well as receiving both the earlier and later educational enrichment programs. One of the four final groups received no additional systematic educational programs but did have the social and health services and the same generally high-quality public education received by the children in the other groups.

The Abecedarian school-age program was designed to strengthen the child's home and school educational environments, based largely on the view that the quality and availability of school resources and parent involvement in and support of children's academic work are important in their school success. For children whose parents had low educational attainment and often had negative school experiences, the program also sought to improve school–family connections and

mutual support. It was designed to be an approach that, if effective, could be adapted for use by other school systems.

An explicit objective of the school-age intervention program was to provide children with additional help related to teacher-selected academic materials. Specific activities focused mainly on reading and math concepts and skills because these are critical gateway skills to more complex material. The school-age intervention program was implemented by highly skilled and trained home-school resource teachers with master's or doctoral degrees. As advocates on behalf of children, they procured educational services or supports that could be of help to children, teachers, and families. Home-school resource teachers typically had a case load of 12 children per year.

Meetings With Classroom Teachers

Meetings with classroom teachers were held biweekly. A home-school teacher obtained information from the classroom teacher concerning the child's progress and curriculum information on which to base the home activities. The home-school teacher shared with the classroom teacher information about the most recent home contact, as well as suggestions about educational approaches. From these discussions specific activities were created for parents to implement with their children.

Meetings With Caregivers

Another major part of the home-school teacher's responsibility was to involve the child's primary caregivers, be they parents, grandparents, or older siblings, in the child's formal education. Approximately every 2 weeks a homeschool teacher met with the primary caregiver to accomplish three primary ends:

1. Provide information concerning the child's activities and progress in school.
2. Communicate the ideas and activities previously established in meetings with the classroom teacher, and provide specific home activities and guidance designed to attain these objectives.

3. Assist parents in understanding the rationale for the activities and in developing positive behavioral techniques for working with their children in response to school-related opportunities, issues, or problems.

The caregiver was asked to document the work on a special calendar. Once a month, the calendar was retrieved by the home-school teacher, in part, to document the program, and was exchanged for family gift certificates at local restaurants.

In summary, the Abecedarian home-school resource approach can be characterized as *targeted* on key academic skills that the child was being exposed to in his or her classroom, using a *guided mentoring program* for both classroom teachers and parents and *careful monitoring and review* of the child's progress by skilled, experienced, and emotionally engaging resource teachers. Home-school resource teachers met regularly as a group and were supported by curriculum and research staff.

Summer Camp

When the Abecedarian Home-School Resource Program was conceived, it was already well known nationally and locally that disadvantaged children tended to not keep up the expected pace of learning during the summer months between grades. To address this issue, the Abecedarian Summer Camp was created that made full use of city, county, and school resources to create a fun-filled, active, and developmentally oriented day program on weekdays throughout the summer. The summer camp made use of city parks and recreational facilities and activities and employed junior staff under the direction of the home-school resource teachers who infused academically relevant content in typical summer camp activities such as individual games, arts and crafts, swimming, sports, and cookouts. Table 3 summarizes the K–2 Abecedarian home-school resource teacher program.

As of 2014, all four of the original Abecedarian yearly cohorts have been followed at ages 8, 12, 15, 21, 30, and 35 years as depicted in Figure 1.

Outcomes and Findings

Outcome Measures

The strategy for estimating the impact of the Abecedarian early education approach concentrated on assessments of children in the treatment and control groups in key skill areas by individuals who were blinded to each child's treatment condition.

Birth to Age 5 Results

The results from the Abecedarian Project during the first five years present evidence of treatment benefits in language, cognition, and intellectual development. Figure 2, for example, shows the children's performance on standardized tests of development and cognition from 3 to 54 months of age. The treatment groups began to diverge significantly by the age of 18 months, such that from 18 months through 4 ½ years, the educationally treated children performed at significantly higher levels than did control children. A strong decline occurred over time in the control group children, consistent with the hypothesis of the toll of living in a low-resource and understimulating environment. In contrast, children in the educational intervention group continued to perform in the normal range. This difference between the two groups yielded a large mean effect size during the first five years of 1.05. Another way of comparing the groups is that on average, the children differed by more than 12 points in their IQ scores. Significant but somewhat smaller differences persisted into adulthood when they were last assessed on IQ at age 21.

Other cognitive/intellectual findings include the following:

The preschool educational intervention reduced the incidence of intellectual disabilities during the preschool years. Figure 3 plots the percentage of children in each group who earned normal range IQ scores (≥ 85) on standardized tests of intellectual development at ages 6, 18, 36, and 48 months. Of the educationally treated preschool children, 95% remained within normal limits at 48 months, whereas only 45% of control group children

Table 3 Summary of Abecedarian K–2 Educational Support Program

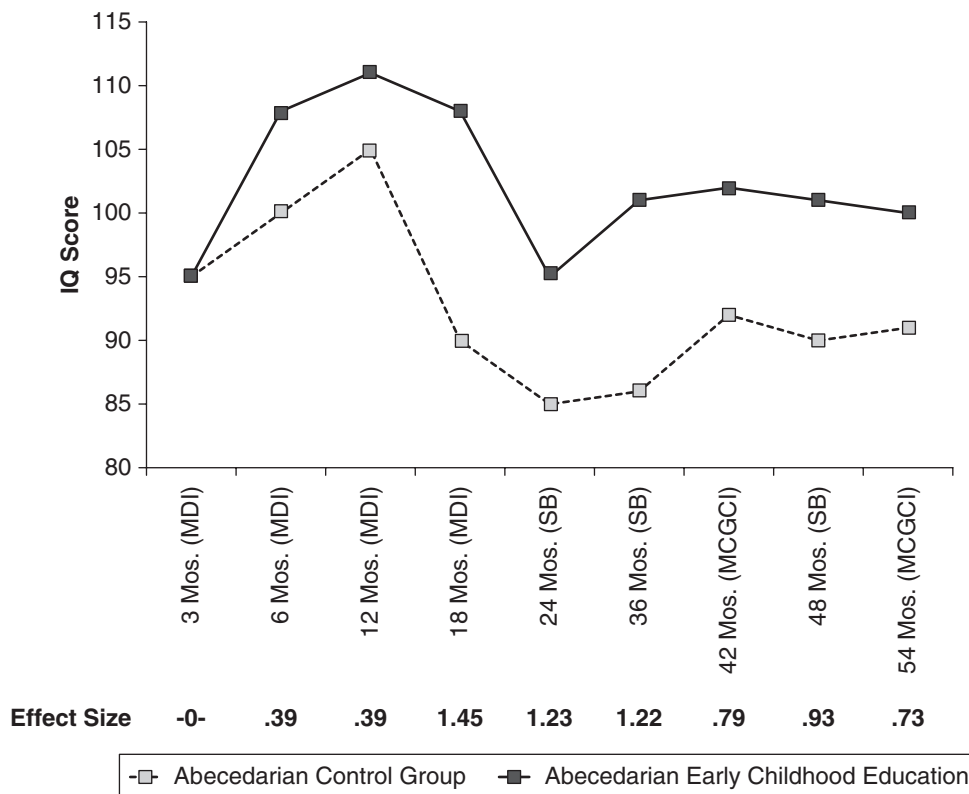
Individualized focus on academically related activities in school and at home
Emphasis on reading, mathematics, and writing
Master home/school resource teachers with 12 children and families per year
Development of an individualized and documented supplemental curriculum for each child
Explicit attention and action relevant to family circumstances, as needed
Summer camps with academically relevant experiences

Source: Adapted from Table 4, Summary of Abecedarian K-2 Educational Support Program, p. 8, Ramey, C. T., Campbell, F. A., Burchinal, M., Skinner, M. L., Gardner, D. M., & Ramey, S. L. (2000). Persistent effects of early childhood education on high-risk children and their mothers. *Applied Developmental Science*, 4, 2–14.

scored within normal limits. From a standardized test perspective, the preschool educational treatment group was about as ready for kindergarten as children from a middle-class population (95% ready), whereas less than half of the control group children scored as ready for kindergarten.

Some Abecedarian educational control group children benefited from other preschool programs in which they were enrolled. Margaret Burchinal, Marvin Lee, and Ramey (1989) reported observations that demonstrated the positive association between attendance at other preschool programs

Figure 2 Intellectual Scores for Early Childhood Education and Control Group Participants in the Abecedarian Project



Note: MCGCI = McCarthy General Cognitive Index; MDI = Mental Development Index; SB = Stanford-Binet.

and cognitive performance during the prekindergarten years for *control group children*. Benefits were proportional to exposure for members of the control group; however, that group's performance did not match that of the Abecedarian preschool educational group, perhaps because of later start dates and less intensive program exposure.

Abecedarian preschool educational intervention increased children's cognitive resilience to nonoptimal biological and behavioral conditions. The Abecedarian preschool educational treatment significantly ameliorated the effects of some biological and behavioral risk factors, including low Apgar scores obtained at birth, difficult early temperament as rated by parents, and mild fetal undernourishment as measured by anthropometry at birth. The primary mechanism for this increased resilience was responsiveness of their teachers and mothers.

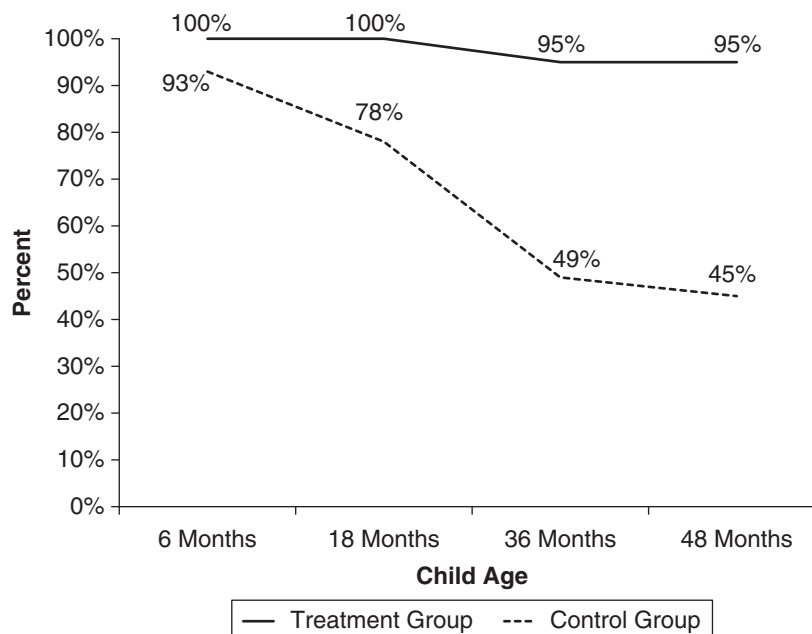
Kindergarten to Grade 2 Results

Academic outcomes at the end of the primary grades represent a direct and practical test of the

four treatment groups. Achievement in reading and mathematics was considered the most important academic outcome because these two basic subjects are crucial to success in the later elementary grades and beyond. Moreover, they are the skills to which teachers, school administrators, the general public, and policy makers pay particular attention. Research on the effects on reading and math performance from the Abecedarian Project involved standard score results for reading and mathematics derived from the Woodcock-Johnson Psychoeducational Battery. These assessments were individually administered to children at school by independent assessors.

The resulting means for the age 8 standard scores conform to the hypothesized pattern for both reading and math, but more dramatically for reading than for math. Effect sizes for the three treatment conditions at age 8 were calculated relative to the mean and standard deviation for participants in the control condition. The effect sizes for reading achievement at age 8 vary from .28 to 1.04 for the treatment conditions. These effect sizes were consistent with the hypothesis about the onset and

Figure 3 Percentage of Abecedarian Sample in Normal IQ Range (>84) by Age 4



duration of the program; that is, the longer and more intense the program was, the larger the effect size would be. The most effective treatment condition was the preschool plus K–2 program, followed by the preschool only, and then the K–2 program only, relative to controls. Findings for mathematics achievement were similar to the findings for reading, although the effects were somewhat more modest (i.e., effect sizes ranging from .11 to .64). Overall, the K–2 supplemental educational program, by itself, was marginally significant for reading (with an effect size of .28) but not practically significant for mathematics (with an effect size of .11).

Follow-Up Studies After Educational Intervention Ceased

At ages 12, 15, and 21 years, all children were followed up and administered Woodcock–Johnson individual assessments of reading and mathematics. Figure 4 shows (in effect size metric) the performance of the three treatment conditions relative to the control condition at each assessment occasion.

With respect to reading achievement, the predicted stair-step pattern relative to amount of treatment is evident: Those in the birth to 8 years program had the highest reading achievement, followed by those in the birth to 5 years program, then those in the K–2 program only, with the controls scoring lowest.

A similar but less consistent pattern was obtained for mathematics with the main difference being the near equivalence of birth to 8 years and birth to 5 years programs at ages 12 and 15. Overall the impact of the preschool program was greater than that of the school-age intervention. That is, the K–2 program by itself had immediate positive impact on reading and math but, over time, the impact faded into nonsignificance both statistically and practically.

These academic achievement findings also are associated with some practical and cost-saving outcomes. For example, the preschool program, but not the K–2 program, is associated with significant reductions in retention in grade from 55% to 30% by age 15 and in placement in special

education from 48% to 24%. At age 30, children who experienced the Abecedarian preschool program were four times more likely than controls to have gone to and graduated from a 4-year college (23% vs. 6%).

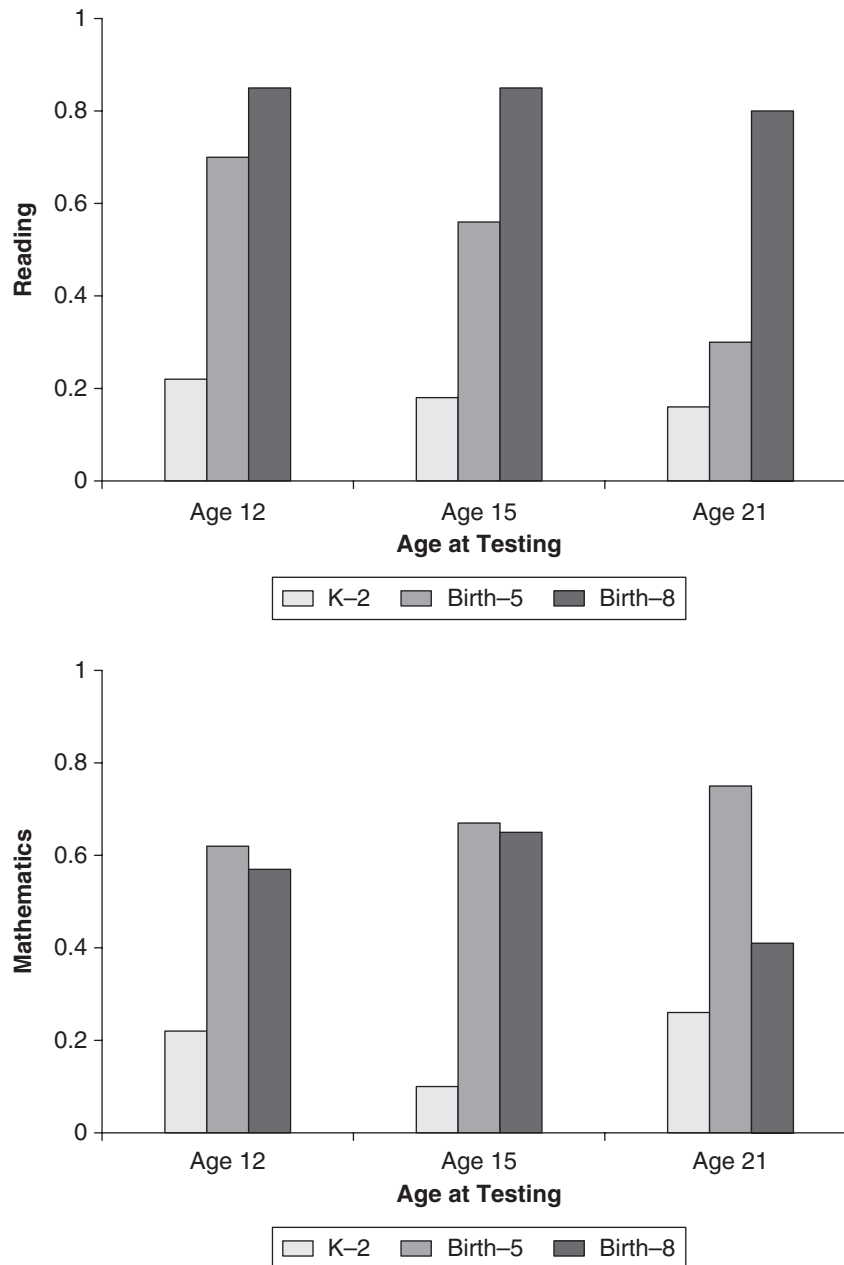
Table 4 provides a brief synopsis of adult outcomes that are significantly associated with Abecedarian preschool attendance.

Replications and Extensions for the Abecedarian Approach to Early Childhood Education

The Abecedarian Project with birth to age 8 education was replicated in North Carolina and known as Project CARE (Carolina Approach to Responsive Education). The most intensive condition was compared to the same approach in a home-visiting format with comparable results for the more intensive treatment conditions but with no measurable positive effect for the preschool home visit plus K–2 program.

Beginning in 1984 the Infant Health and Development Program was created as an eight-site RCT of the Abecedarian approach for low-birth-weight and premature infants. A sample of 985 children from birth to age 3 years were enrolled in the program, which involved researchers at University of Arkansas for Medical Sciences, Albert Einstein College of Medicine, Harvard Medical School, University of Miami School of Medicine, University of Pennsylvania School of Medicine, University of Texas Health Sciences Center at Dallas, University of Washington School of Medicine, and Yale University School of Medicine. Abecedarian scientists at the University of North Carolina at Chapel Hill developed the protocol and supervised its implementation, and Stanford University collected and analyzed the outcome data at each of the eight sites. The program produced positive results in IQ, language, social development, and health at age 3 at each of the eight sites.

As of 2015, replications and extensions of the Abecedarian approach were in process in several countries, including Canada and Australia. Those trials were designed primarily to do two things:

Figure 4 Longitudinal Effect Sizes (in Standard Deviation Units) for Reading and Mathematics by Treatment Group

(1) explore degrees of risk in children from disadvantaged families, and (2) gain further knowledge about which children respond positively to the intervention and by how much.

Conclusion

It is clear that all children need substantial support to develop into healthy and productive

adults. Children who are conceived and born into families that have been poor and undereducated for generations face daunting challenges that block full participation in the activities and institutions that undergird productive and contributory life. Growing up poor and Black in a southern university town surrounded by affluent and educated White adults and peers poses its own set of challenges.

Table 4 Some Outcomes of the Abecedarian Preschool Educational Exposure Relative to Controls

<i>Significantly Increased</i>	<i>Significantly Decreased</i>
Kindergarten readiness	Intellectual disabilities
Reading achievement	Retention in grade
Math achievement	Special education
College attendance	Teen pregnancies
College graduation	Public assistance
Full-time employment	Smoking and drug use
Overall health	Depression
Maternal education	
Maternal employment	

The Abecedarian results indicate that high-quality early childhood education can be an important factor in helping children who start life with significant disadvantages to be more competent. Economists have used data from research on the Abecedarian Project to argue that similar programs more than pay for themselves in benefits to participants and taxpayers. To justify such programs on a cost/benefit analysis alone, however, is too narrow a focus. It is clear that classism and racism were not eliminated as negative factors that these children, and now, adults, must contend with. The Abecedarian approach represents a conservative estimate of the power of early childhood education to make life a fairer and more enjoyable existence from which children, parents, and society can reap real and socially meaningful benefits.

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See also At-Risk Families; Curriculum and Early Childhood Education; Early Intervention; Infant and Toddler Programming; Poverty Effects; Reading; Teen Pregnancy and Parenting

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ACADEMICS AND ACADEMIC ASSESSMENT IN EARLY EDUCATION

This entry focuses on academic practices and assessment of academics in early childhood spanning preschool to third grade. *Academic content areas* as defined here include instructional content and teaching practices for the areas of literacy, mathematics, science, and social studies. The topics of academic instruction and associated assessment practices are vast and could be approached from any number of perspectives. The perspective taken here is to highlight core influences on academic content and practices in typical early childhood programs and elementary schools.

Three key topics are discussed with reference to multiple content areas: academic content standards, theoretically and empirically guided models of instruction, and academic assessments. The final topic area discusses the different types and purposes of assessments, inclusive of assessments for learning and assessments of learning. The focus here is on academic content and instruction in the United States within general education classrooms.

During early childhood, academic literacy content addresses building children's competence in fluently decoding words and in comprehending texts of increasing complexity and of both narrative and expository genres. Developmental precursors to decoding and comprehension include letter knowledge and phonological awareness, whereas concurrent content includes oral language, writing, and spelling. In mathematics, core academic content addresses mastery of conceptual understanding and procedural applications in number and operations, geometry, measurement and analysis, and patterning. In both these domains and increasingly in science, content standards are a primary driver of grade-specific instructional content.

Academic Content Standards

In the United States, there has been a notable increased focus on standards-based educational practices in recent decades. Standards-based

frameworks address both content coverage within academic areas and grade-specific expectations of what students should know after receiving a year of instruction. One goal of standards-based instruction is to have clear alignment between standards, curricula, and assessments. Inside state-supported prekindergarten and other preschool settings, standards have been associated with a move toward a more educationally focused environment and away from conceptualizing early childhood settings as custodial care with primary focus on nurturance and child care support for working parents.

Initially, the standards adopted in each state were unique and included widely varying scopes, sequences, and rigor of grade-specific expectations. In recent years there has been a movement, led by the states, to create common sets of educational standards and expectations for kindergarten through Grade 12. These standards address reading/language arts, mathematics, and more recently, science. These standards are represented in the Common Core State Standards and the Next Generation Science Standards. In social studies, although there is not a widespread adoption of common standards, the National Council for the Social Studies has put forward a framework for common standards. Most states, and the federally funded Head Start program, also have standards for state-funded prekindergarten programs serving 4-year-old students. These standards cover foundational skills for reading, mathematics, science, and social studies but also emphasize approaches to learning and physical and motor development.

A framework similar to the standards movement, but derived more from empirical research than from policy consensus, is the idea of *learning progressions*. Learning progressions have been proffered in science and math by researchers such as Douglas Clements. These academic content frameworks take into consideration what research in cognitive science and development indicates regarding the trajectories of understanding and abilities at different age levels to develop instructional sequences. In both academic areas, learning progressions have the goal of identifying a limited

amount of critical core content that educators should emphasize at each grade level, as a means of avoiding common problems of brief coverage of a wide array of concepts. A related goal is to avoid teaching students what they already have mastered, a problem implicated by many researchers investigating why some early learning gains may fade over time. Likewise, learning progressions attempt to map both quantitative and qualitative changes in students' conceptual understanding of mathematical and science content.

In early education settings there is limited instructional time that has to be allocated across the four core academic content areas and also, ideally, to art, music, physical education, and social development. Some critics of standards-based education are concerned about the prioritization of core academic areas over the other content areas. Even within core academic content areas there are differences in what is emphasized in classrooms. Specifically, research suggests, likely related to what assessments emphasize, that the time allocations to science and social studies have dropped substantially over the past decade, in favor of more time on reading and mathematics instruction.

Models of Instruction

Two controversies have dominated the discussion of what early childhood educators should teach. The first controversy concerns questions regarding whether academic or social-emotional content should be given priority; this controversy has been most prevalent among preschool and kindergarten educators. Significant research and theory support the relevance of children's social competence for their academic success. In particular there is clear evidence of the importance of children's self-regulatory control (of emotions, behaviors, and attention) within the classroom environment and of what has been called *approaches to learning*, which includes aspects of interest and engagement, persistence, and motivation to learn. These competencies are likely developmental precursors to more fully realized metacognitive and self-regulated learning behaviors observed in older

children, adolescents, and adults. The relevance of self-regulation and approaches to learning is not itself controversial. However, the relative emphasis on these and formal academic skills, and issues of their contention versus complementarity, have been a long-standing debate in early childhood.

Some researchers and educators have stressed the importance of a third aspect of development, related to more domain-general development. For example, Lilian Katz highlighted a distinction between academic and intellectual development goals, which are related to supporting children's dispositions toward learning. These dispositions include reasoning and problem-solving capacities that cut across specific academic areas but that may draw on academic skills and content knowledge. This perspective shares commonality with the focus on approaches to learning and with the focus on authentic learning contexts shared by many early childhood experts but also emphasizes attention to intellectual rigor and scientific relevance when selecting the content to which young children should be exposed. This latter point of emphasis stands in contrast to the sometimes trivial and non-intellectually stimulating activities observed in some early childhood classrooms.

The second, somewhat overlapping controversy concerns the nature of instruction for academic content; this controversy has been prevalent among educators across the early childhood grade span. Instructional models for early education have traditionally been described as those that derive from a constructivist, child-initiated learning framework and those models that endorse more educator-initiated, direct instructional approaches. Advocates of the former models have labeled these two approaches as *developmentally appropriate* and *developmentally inappropriate* practices, terms that have achieved widespread popularity but have been interpreted in quite diverse ways by educators and policy makers. A more pragmatic way of describing these instructional models is that they differ in how much and what kind of educator guidance is provided to children. One end of the continuum, particularly for preschool-age children, suggests very minimal educator guidance,

such that children are to be provided appropriate and relevant materials and encouraged to discover new skills and knowledge via their play alone and with peers. This version of constructivist practice is aligned with Jean Piaget's developmental stage theory of learning. The other end of the continuum suggests considerable educator guidance, such that children are provided models of and assisted practice with new skills. This end of the continuum is aligned with aspects of information processing and behavioral learning theories. A hallmark feature of evidence-based highly guided instruction is that it is *explicit* (e.g., the learning goal is clearly identified, the skill is modeled by educators, and students engage in supported practice with immediate corrective feedback).

With respect to K–3 reading instruction, dichotomized interpretations underpin decades of debate pitting those favoring whole language practices against those favoring instruction that includes explicit teaching of letters and phonics. Controversy is fueled by extreme depictions of each model, with whole language described as comprising only pure discovery learning and phonics-based models comprising only whole-group drills and passive worksheet exercises. Similar debates are ongoing regarding traditional versus more constructivist mathematics instruction. Critically, such characterizations often misrepresent the intentions of model proponents. That is, guided academic instruction can be highly interactive and motivating; likewise, student-initiated explorations can be academically beneficial and intellectually stimulating—thus, *both* instructional models echo the focus on intellectual rigor advanced by Katz.

Key components of these opposing instructional paradigms, particularly the constructivist approaches, derive more from philosophies of learning and teaching than from empirical investigation. However, especially for reading, there is now a substantial body of scientific evidence to inform educator practice. Importantly, accumulated evidence supports aspects of both constructivist and explicit instructional models. Using the pragmatic framework described earlier, this conceptualization of instruction includes gradations of teacher guidance, conditioned on the specific content to be learned

and the expertise level of learners. This differentiated-guidance model largely derives from social constructivist learning theories (i.e., guidance as *scaffolding*). Notably, the developmentally appropriate practice perspective has itself evolved toward encouraging teachers to intentionally mix minimally guided instruction and teacher-guided instruction and regularly engage in scaffolding.

For literacy, research indicates distinct cognitive processes associated with decoding and comprehending what one reads and correspondingly distinct instructional methods for each skill. Specifically, there is strong, convergent experimental evidence for teacher-directed, explicit instruction for code-related skills (i.e., phonological awareness, alphabets, phonics, and spelling) for children of all ability levels. In contrast, some more constructivist methods of teaching comprehension have been supported, primarily those including intentional instruction in comprehension strategies (e.g., visualization, questioning).

Comparably, in early mathematics instruction, experimental studies and meta-analytic reviews by researchers such as Russell Gersten suggest that explicit, systematic instruction, including computer-assisted instruction in arithmetic facts and operations, is effective in both general and supplemental educational settings. These findings are strongest for students who begin instruction with skills below grade level; initially advantaged students appear to progress well in mathematics in diverse instructional contexts. Notably, these evidence-based instructional practices are teacher guided but include active manipulations and verbalization of reasoning and problem-solving processes by students, practices derived in part from more discovery-oriented pedagogical models. Additionally, some preliminary research suggests the efficacy of hybrid models of early mathematics instruction where students initially explore problem types independently or with some conceptual instruction and subsequently receive relevant explicit procedural instruction.

Across content areas, accumulated empirical findings therefore suggest that high-quality, research-based academic instruction does not include only one pedagogical approach. High-quality instruction

can include differentiated amounts of guidance based on child or content characteristics. As an example, students with particularly weak decoding skills, such as those with a learning disability, may especially benefit from more explicitly guided instruction, whereas students with more advanced decoding and comprehension skills may particularly benefit from a loosely guided comprehension lesson focused on their construction of meaning from the text. Consistent with this perspective, studies on differentiated classroom reading instruction by researchers such as Carol Connor suggest that students may benefit from individualized profiles of code- and comprehension-focused instruction based on their initial skill levels. Similarly, some research suggests that the benefits of computation- versus schema-focused mathematical word problem small-group instruction may differ for students with varied initial skill levels.

Academic Assessments

Assessment of academic content takes numerous forms and has diverse purposes. One common way of classifying assessments is based on whether they serve the goal of assessment for learning (*formative*) or of assessment of learning (*summative*). Formative assessments are those used by teachers to inform instructional decision making, ideally in real time or with rapid turnaround. Many formative assessments are those developed by teachers and can include incidental questions posed to students during instruction and classroom discussions. Other formative assessments that are standardized, rather than teacher-developed, include *progress-monitoring measures*. These are also labeled as *curriculum-based measures* (CBMs) and include brief measures of specific academic skills.

The most common progress-monitoring assessments in early literacy are oral reading fluency measures that assess students' reading rate of grade-level passages, typically in 1-minute intervals. An example CBM for younger students is letter-sound fluency. In early mathematics, an example of progress-monitoring measure for first and second grades assesses fluency for solving mathematical computations (e.g., single-digit addition and subtraction problems). An

example of a measure for younger students is quantity discrimination fluency. CBMs are used to estimate rates of student improvement across brief time periods (as short as 1 week) and to document response to instructional interventions. In mathematics, CBMs typically differ from traditional mastery measures such that all forms include the full scope of content rather than discrete content keyed to each instructional unit. For both math and reading, a hallmark feature of progress-monitoring measures is use of forms of equivalent difficulty administered across time to gauge cumulative progress. Most of the widely used CBMs have established benchmark expectations for performance at different points in time for each grade level. A primary goal of these measures is to provide teachers with individualized yet psychometrically sound (i.e., reliable and valid) information regarding student learning so they can best differentiate instruction.

Related to this goal, formative assessment is a central feature in response to instruction (RTI) models, which are a form of multitiered levels of instruction reaching widespread implementation in elementary schools in recent years. RTI typically includes three tiers of instruction: Tier 1 is general classroom instruction; tier 2 includes small-group, more intensive instruction; and tier 3 is highly individualized, often one-on-one instruction. RTI is a system of differentiating instruction and identifying students with learning disabilities. In both cases, assessments play a prominent role. *Screening* assessments are designed to identify students who may be at risk for poor academic progress and who may qualify for tier 2 or tier 3 instruction. Screening measures "screen to" a criterion measure, typically a norm-referenced diagnostic assessment or a summative end-of-year assessment. Progress monitoring is utilized to track whether students are responding to their current level of instruction. Researchers such as Lynn Fuchs and Donald Compton are investigating issues such as the best specific measures to use for these identification purposes, where on continua to designate cut-points for routing students into more intensive instruction, and how to most validly use these formative assessments as part of a formal diagnostic process for special education.

Summative assessments of early academic content are more controversial, in that they typically are implemented as part of a high-stakes accountability system. *Summative* assessments are measures of content mastery implemented at the end of an instructional period (such as a school year) and are often aligned with the grade-level standards adopted by a state. These assessments are typically either *criterion-referenced* assessments, which compare student performance to established benchmarks for performance in their grade level, or *norm-referenced* assessments, which compare student performance to that of other students. Summative assessments of early academic content are more controversial than formative assessments, in that they often are implemented as part of a high-stakes accountability system.

One challenge in selecting assessment tools is to clearly specify the purposes for which they will be used, because a measure valid as a progress-monitoring tool may not have comparable validity as part of a diagnostic assessment for determining special education qualification. Likewise, it is important to distinguish between the validity of summative assessments as indices of student skill and the validity or appropriateness of the high-stakes purposes for which these measures are often used (a topic beyond the scope of this entry). Similarly, there can be a substantial gap between the goals of an accountability measure and of a teacher's informal classroom assessment. Teachers likely need access to a variety of valid measures, as well as their own content expertise, to accurately gauge student progress in learning.

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See also Approaches to Early Mathematics Instruction; Common Core State Standards; Early Literacy Development

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ACCESSIBILITY

While research on early childhood programs and policies has led to an increased awareness of the potential benefits of quality early childhood education programs and their cost-effectiveness, access remains quite uneven. Accessibility to early childhood programs over time has developed into a complex system of funding streams, programs, and forms of delivery that vary greatly across the country. Access and access to quality are central issues very much present in relation to early childhood education. Children under the age of 5 may be enrolled in child care, Head Start, Early Head Start, preschool, or a home day care program. Programs are either federally funded, state funded, or locally funded. However, there is little to be said about the overall quality of programs, with the majority of services being low quality. This entry summarizes types of early childhood education programs, enrollment rates in these programs, inequities in accessibility for children in the United States, and access to quality programs.

Early Childhood Education Programs

The two main drivers of enrollments in early childhood education programs in the United States are the federally funded Early Head Start and Head Start programs and state preschool programs. Head Start is the largest program of the U.S. Department of Health and Human Services, and it provides comprehensive early childhood education, nutrition, health, and parental involvement services to low-income children and their families. It is also the longest standing program of its kind, as it has been in operation since the 1960s.

State preschool initiatives are much younger, with the majority of them having been started in the past two decades. These programs vary significantly in hours of operation, eligibility, funding, and standards of quality. Out of a total of 53 programs in 40 states, 29 are income targeted, and 14 are full day (with some states allowing variations within state programs). The state preschool

programs in Washington, D.C., Florida, Oklahoma, Vermont, and West Virginia rank among the highest in terms of access for 4-year-olds. The programs in Washington, D.C., Vermont, Illinois, New Jersey, and Arkansas similarly rank highest for access to 3-year-olds. Washington, D.C., New Jersey, and Connecticut provide the largest resources per child. On top of state programs, in the past few years there has been an increasing trend, albeit still small, for cities to either complement state preschool programs or create their own programs. This is the case for Boston, Denver, San Antonio, and Seattle, among others.

Child care programs, whether with federal support, state based, or locally based, while less likely to have educational content are also important providers of center-based services for children under the age of 5. These programs usually have different standards and regulations than preschool services and may be provided for extended hours. Some child care services are provided as a wrap-around to existing preschool programs.

Enrollments

For the purposes of this entry, early childhood education programs are defined as center-based programs with an educational focus. Head Start is one such type of program, as are state preschool programs. Currently, slightly over half of the children under age 5 are enrolled in some type of center-based program. Enrollment rates are higher for children in the preschool years, ages 3 to 5, but more predominantly so for 4-year-olds. These rates are slightly higher for White, African American, and Asian American children and somewhat lower for Hispanic children. Differences in enrollments by income or by parental education are also quite stark.

Enrollment rates have been strengthened in states that have state preschool programs. State preschool programs have been the main driver in the past couple of decades, even after having been strongly affected by the financial crisis that hit the United States in recent years. According to W. Steven Barnett and colleagues in *The State of Preschool 2014: State Preschool Yearbook*, total

state preschool enrollment now amounts to over 1.3 million children ages 3 and 4 in 40 states and Washington, D.C. With almost 800,000 children in Head Start and another 430,000 in special education programs, about 2.5 million children are currently being served by these types of early education services. Total enrollment is about 40% of 4-year-olds and 15% of 3-year-olds.

The rate of enrollment in these types of early education programs has grown slowly. Unlike the trends of other highly developed countries where universal public early childhood services are much more common, the United States has a much more limited system, far from providing universal access. It would take the United States more than 75 years at the current growth rate to enroll at least 50% of the country's 4-year-olds. Moreover, gains in access, and in particular, in access to high quality, have been uneven and quite dependent on state and local initiatives. Access is highly dependent on location. Currently, the Northeast has the highest access rates with 70% of its 4-year-olds enrolled in center-based programs. Similarly, enrollment rates in rural areas are about half of what they are in urban or suburban areas.

Access to Quality

Research has continuously highlighted the importance of quality in order to reduce achievement gaps and to gain long-term benefits on children's developmental trajectories. Quality, however, is not so much the rule but rather the exception. Many programs are too low in quality to generate lasting positive impacts on children. Generally, research has shown that the programs with the largest and longest lasting effects are more educationally intensive and expensive. The most effective programs have been part of public education and have had more highly educated, better paid teachers than Head Start and child care, reasonably small class sizes, and low child-teacher ratios.

In essence, among the various aspects highlighted for quality programming and structure are (a) a qualified staff, with bachelor's degrees in early childhood education or bachelor's degrees and state teaching certificates in early childhood education;

(b) teacher assistants with certification in child development or early childhood; (c) adequate compensation in line with the K-12 system; (d) low child-staff ratios (1 to 10 for preschool); (e) small group sizes (2 teachers to 20 children for preschool); (f) age-appropriate and research-based curricula; and (g) a system of monitoring and evaluation, supervision, coaching, and support by specialists.

In addition, there are important aspects of process and form that have been shown to be fundamental components of quality. Among these are providing ongoing opportunities to learn important skills, knowledge, and dispositions and emphasizing intentional teaching and individualized and small group instruction.

Early childhood programs vary tremendously in all aspects of quality, making access to quality services starkly defined by where a child lives. For example, Oklahoma has relatively high-quality programs, while also having high access rates. Some other states have created universal programs for 4-year-olds but dedicate too few resources per child, as is the case in Florida. Other states have quite large, high-quality programs but are mostly focused on economically disadvantaged children, as is the case in New Jersey.

Overall though, access to quality services is low. According to Milagros Nores and W. Steven Barnett, only about a third of 4-year-olds have access to programs of quality. On top of this, access to quality is also defined by race, income, education, and location. Children from low-income families are half as likely to be in a high-quality program as children from high-income families. Similarly, racial and ethnic minorities as well as rural children are less likely to have access to a high-quality program. This is also the case for dual language learners and children of immigrant families, according to the Center on Enhancing Early Learning Outcomes (CEELO).

Access for Infant and Toddlers

For children under the age of 3 years, access and access to quality services are quite scarce and in many regions nonexistent. Early Head Start is a key provider of services for children in this age

group, although the majority of children served are enrolled in child care. Less than 20% of infants and toddlers are enrolled in center-based programs, about 30% are in some type of relative or nonrelative care, and the majority of them, over 50%, are not enrolled in any type of services or consistent arrangement. What little is known about the quality of services for infants and toddlers has indicated that most programs are of low quality. Access to early childhood programs for infants and toddlers is less strongly defined by location (as it is low across the board) and somewhat more defined by income, parental education, race, and ethnicity, while at the same time remaining low for nearly every child in the country.

Determinants of Access

Although there is some evidence that different families have different preferences in terms of accessing early childhood education services, existing accessibility rates are highly policy driven. The states that have moved toward providing universal access (such as Florida and Georgia) have seen strong growth in participation rates in a very short period of time. The same has been true in New Jersey in the districts where universal preschool is provided (known as the Abbott districts). Consequently, policy and politics are the main drivers of enrollments. Strong recent initiatives for increased access and quality have come from the federal government, from the ballot, or from strong leadership at the state level.

Milagros Nores

See also Head Start; Poverty Effects

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- National Institute for Early Education Research (NIEER): <http://www.nieer.org/>
- Office of Head Start, Administration for Children and Families, U.S. Department of Health and Human Services: <http://www.acf.hhs.gov/programs/ohs>
- ZERO TO THREE: <http://www.zerotothree.org/>

ACCOMMODATIONS AND ADAPTATIONS

Accommodations and adaptations are supports incorporated into everyday environments that provide individuals with disabilities the same opportunities to participate and achieve as those without disabilities. For young children with disabilities,

this may include providing accommodations for inclusion in child care settings, removing barriers that impede access to participation in schools, and providing modifications that support individualized learning objectives. By supporting the participation and learning of young children with disabilities through accommodations and modifications, inclusive communities in which all children belong are created, thus also enriching the experiences of children without disabilities. This entry explores the concept of accommodations and adaptations in relation to young children with disabilities. Specifically, it distinguishes between accommodations and adaptations/modifications, addresses their legal basis, and explores various types of accommodations and modifications.

Definitions

Although accommodations and adaptations are often words seen in tandem, they are not the same. An *accommodation* is a change that is made to an environment, an assessment, or a learning experience that does not change the expected outcome for an individual with a disability in comparison to an individual without a disability. For example, even though a third-grade student with a learning disability is permitted the accommodation of more time to complete a math assignment, he is still completing the same assignment as his peers. Accommodations focus on *how* a student learns or negotiates an environment rather than on *what* a student is learning. Accommodations often allow students with disabilities access to an activity by removing barriers to participation and increasing the student's independence in completing a task or negotiating an environment. Accommodations modify the environment, the manner of presentation, or the child's method of responding without lowering the standard for the student with a disability.

An *adaptation* or a *modification*, as it is referred to legally, is a change made to an environment, assessment, or learning experience that lowers the expected outcome for the individual with a disability in comparison to others. For example, giving a student with Down syndrome fewer and easier math problems on an assignment alters the magnitude and

level of the learning experience; what the student is learning is different from that of the other students in the class. Adaptations/modifications, in contrast to accommodations, modify the learning objectives, instructional content, and/or method or criteria of evaluation to meet an individual's different needs and abilities in ways that alter what the child is learning or the standard to which the student is evaluated. Like accommodations, a modification may also lead a child to greater independence, albeit at a level below that of his peers without disabilities.

For young children with disabilities, accommodations and modifications are key components to promoting success in all types of settings, including those found in homes, child care centers, and school classrooms. Adjusting developmental and learning opportunities in these settings through the use of these supports provides young children with disabilities enriched, individualized learning experiences, including better access to the general education curriculum in school programs. It is essential that accommodations and modifications are not one-size-fits-all. One must not only consider the specifics about the child when identifying accommodations and adaptations, such as age, placement, specific strengths, and identified goals, but also the level of evidence for the practice that exists in the research literature.

Legal Basis

A number of different laws require the use of accommodations and modifications as a primary means for guaranteeing that individuals with disabilities will have equal opportunity to participate in the mainstream of our society and, in particular, in our schools. Most broadly, the Americans with Disabilities Act (ADA) prohibits discrimination on the basis of disability. This includes making "reasonable accommodations" to policies and practices in child care settings so that children with disabilities can be included and benefit from the services provided.

The Individuals with Disabilities Education Act (IDEA) protects the rights of children with disabilities to receive a free appropriate public education.

It is an education law that provides financial assistance to states for special education programs and services and covers children starting from birth. All preschool and school-age children receiving special education services receive an individualized education program (IEP), a written document that delineates the measurable annual goals for a student's educational program and the supports and services that will be provided so that the student can achieve those goals. For school-age children, the child's goals and identified supports are referenced in terms of the general education curriculum. Accommodations and adaptations may appear within various sections of the IEP and encompass participation in regular education classes as well as extracurricular and nonacademic activities. The 2004 reauthorization of IDEA added a section to the IEP specifically focused on state and district-wide accommodations for assessment.

For preschool children, covered under Section 619 of Part B of IDEA, the focus is more on developmental skills and age-appropriate pre-academics, which may be referenced to state learning outcomes for this age group if available in a state. For infants and toddlers with disabilities covered under Part C of IDEA, the use of the words "accommodations and modifications" is not usually applied, although the same basic principles are pertinent. A main difference is that the proposed outcomes are developmental rather than academic and such interventions generally occur in natural environments in the home and other community settings (e.g., child care, playgrounds, grocery stores) rather than in schools or preschools.

Similar to the ADA, Section 504 of the Rehabilitation Act also focuses on civil rights, specifically public and private programs and services that receive federal assistance. Some children who do not qualify for special education under IDEA may qualify under Section 504, which focuses on removing barriers and providing children access to education. Children covered under Section 504 may include children with asthma, cancer, allergies, epilepsy, diabetes, or certain mental disorders—basically those that do not require specially designed instruction but who may need accommodations to support access to learning and learning

environments, because they have been diagnosed with a physical or mental impairment that substantially limits a major life activity. Although not mandated by law, many school districts develop Section 504 plans, which identify the accommodations and modifications that will be made to support a student. States do not receive funds to support the implementation of Section 504 nor is there the same degree of federal oversight as IDEA. Students who qualify for special education under IDEA generally do not also have Section 504 plans; Section 504 protections are generally covered by the IEP.

Types of Accommodations and Adaptations

Accommodations and adaptations are generally broken down into various types. Although there is some variation, they usually are categorized in terms of changes in presentation, response, setting, and timing/scheduling. Although this schema was developed primarily for school-age children in academic settings, the examples here also include children younger than kindergarten age in non-school settings; many examples are general enough to be independent of age and/or setting.

Changes in *presentation* refer to creating additional or alternative visual, auditory, and/or tactile inputs for accessing the pertinent learning materials or aspects of the environment that are integral to a task. For example, although most preschoolers learn to wash their hands by responding to teacher verbal instructions, some children with disabilities, such as those with autism, intellectual disabilities, or other conditions in which auditory input might not be optimal, would benefit from a set of pictures near the sink that depict the steps in hand-washing. This visual accommodation permits the child to learn the same behaviors as other students but with additional support. Other presentation changes might include providing directions in different modes such as verbally and in print; a list of important vocabulary words; manipulatives to complete math problems; shorter or simpler assignments; alternative activities or assignments; and visual or graphic organizers. Changes in presentation may also include the use of specialized equipment and

modifications of materials, such as highlighting pertinent words in printed material; using Braille, large print, text-to-speech technology, or audiobooks; providing a calculator or abacus; and using adaptive cups, spoons, toys, writing tools, and seating/standing arrangements.

Changes in a child's *response* refer to the manner in which a child demonstrates knowledge once the task has been presented or to the level at which a child responds. For example, a third-grade child with cerebral palsy who is unable to control her arm movements but who has minimal speech involvement could electronically record her stories or use a voice recognition system for speech-to-text conversion rather than writing them on paper. Other response changes might include use of Braille, sign language, computer, or a dedicated communication device; use of a scribe to record student responses or take notes; alternative assignments and activities, including shorter and easier tasks; and pointing with a finger rather than speech to make a selection.

Changes in *setting* refer to providing alternative locations or conditions for a task, taking into consideration seating, placement next to other students, noise level, and comfort. For example, a mother who tries to engage her toddler with autism in his bedroom laden with toys finds that the child rapidly moves from toy to toy without more than a few seconds engagement with any, especially when she tries to direct his attention to specific items. Upon advice from her early intervention provider, she modifies the setting by moving playtime to a corner in the basement, devoid of all but five of the child's favorite toys. Rather than trying to redirect his attention, she follows the child's lead by imitating his actions on a similar or identical toy. This change in setting, along with a modification in presentation, results in the child now engaging each toy for several minutes. Other accommodations and modifications to a *setting* might include providing headsets to block noise; removing distractions from the learning setting; adjusting student seating to be closer to the teacher, screen, or board or away from the door or windows; considering one-to-one, student pairs, or

small group learning arrangements; adjusting lighting; using an FM system for children with hearing impairments or auditory processing challenges; using tape or magnetic strips to secure paper or other items to a surface; and using individualized dishpans for sand or water play.

Changes in *timing and scheduling* refer to allowing more time to complete a task or modifying how time is organized in the completion of a task. For example, many children with disabilities may tire easily because of the nature of their disability. Allowing a child the opportunity to take more frequent breaks may permit him or her to complete a task with greater success and perhaps avoid meltdowns that could disrupt the classroom. Other timing and scheduling accommodations and modifications include breaking an activity into smaller, less time-consuming tasks; giving a child a desk version of the schedule; signaling transitions between activities ahead of time; and modifying the schedule to complete more difficult tasks when the child is most attentive.

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See also Accommodations for Assessment; Americans with Disabilities Act; Differentiated Instruction and Assessment; Individualized Family Service Plan and Individualized Education Program; Universal Design for Learning

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Center for Parent Information and Resources: *Supports, modifications and accommodations for students*:
<http://www.parentcenterhub.org/repository/accommodations/>

National Center on Accessible Educational Materials:
<http://aem.cast.org/about#.VW7102BjHJg>

ACCOMMODATIONS FOR ASSESSMENT

All children, including those with disabilities, are required to take part in district and statewide assessments. States generally begin testing in third grade. Providing accommodations and adaptations/modifications for children with disabilities ensures that such assessments more accurately measure a child's achievements. This entry reviews district and statewide assessment accommodations for children with disabilities, specifically the legal basis of these accommodations, the identification of accommodations, the use of alternate assessments, and assessment accommodations for English language learners (ELLs) with disabilities.

Legal Basis

The No Child Left Behind Act (NCLB) of 2001 required states to develop standardized assessments to measure the basic skills of students as a means of evaluating the extent to which schools in a state were meeting academic standards. The purpose of the legislation was to improve the quality of the schools and to ensure that all children have an equal opportunity to receive a quality education. NCLB mandated that no less than 95% of student scores be included in the report of adequate yearly progress (AYP). Effectively, this requires schools to report the scores of all students, prohibiting the elimination of the lowest scores. In reporting the scores, schools must disaggregate the results by subgroup, including those with disabilities.

The reauthorization of the Individuals with Disabilities Education Act (IDEA) in 1997 greatly

strengthened the role of regular education in programs for students with disabilities by requiring that children's goals relate to the regular education curriculum in student individualized education programs (IEPs). IDEA reauthorization in 2004 further formalized participation in the general education curriculum by requiring that a student's IEP include a written statement of accommodations and modifications for state and district standardized testing. Furthermore, all states were mandated to develop written policies for acceptable assessment accommodations. Children with disabilities who are not covered under IDEA, but who receive accommodations under Section 504 of the Rehabilitation Act, must also be included in state assessments with the use of accommodations as appropriate.

The Identification of Accommodations

An IEP team must decide whether or not a child with a disability will participate in the general state assessments. For many children with disabilities, it is a matter of making accommodations to the test setting, manner of test presentation, nature of the child's response, and/or the timing or scheduling of the test so that the child's achievements can be measured accurately. When such accommodations are made, they do not change the level of content or the criteria for evaluation when compared to those used for children without disabilities. For example, a child might be given more overall time and tested in a separate room with 5-minute breaks scheduled every half hour. Someone else might read the test questions and then write down the child's verbal responses. However, the content being tested is the same as for students without disabilities.

Tests might also be given in smaller groups, in rooms with fewer distractions, sitting near the teacher or aide, or using special lighting or acoustics. Other presentation-based accommodations might include large print or Braille editions of tests, sign language interpreters or amplification, simplified directions or underlined key words, repetition of test directions, and cues on answer forms to reduce

misplacement of answers. The manner in which a child records his responses could include recording answers orally on a tape recorder or using speech-to-text conversion software; signing responses; using assistive communication devices, word processors, or computers; and adapting answer forms to accommodate larger handwriting or limited range of motion. Time and scheduling accommodations might include multiple shorter test sessions, use of frequent rest breaks, and not having a time limit.

All accommodations for assessment are described in detail in the child's IEP and are to be selected from the state's approved list of accommodations. Accommodations selected for assessment do not have to be the same as those selected for instruction. In fact, it is recommended that both be considered separately as the needs of the student in each situation may differ.

Alternate Assessments

For a small number of children with the most severe disabilities, the general state assessments will not be appropriate even if accommodations are made. For these children, an *adapted* or *modified* assessment, called an alternate assessment, is given that lowers the expected standards for the individual in comparison to others without disabilities. In this case, the IEP must include an explanation of why the child will not be assessed using the general state assessments and a description of how the student will be assessed. There are three alternate assessment options:

1. Alternate assessment based on grade-level academic achievement standards for students who may require alternate contexts and supports that cannot be accommodated on the general tests; currently, only a few states offer this option.
2. Alternate assessment based on modified academic achievement standards for students who are learning grade-level content but whose expectations for achievement are below grade-level proficiency.
3. Alternate assessment based on alternate academic achievement standards for students

with significant cognitive disabilities. This option assesses content at less breadth, depth, and complexity with a standard of proficiency that is lower than the general assessment.

English Language Learners With Disabilities

The achievements of English language learners (ELLs) can be misrepresented by standardized assessments. To address their unique needs, testing accommodations for children with disabilities who are also ELLs must include both disability-related and linguistic accommodations. State accommodation documents typically address acceptable accommodations for ELLs with disabilities.

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See also Accommodations and Adaptations; Accountability in Early Care and Education; Differentiated Instruction and Assessment; Dual Language Learners; High-Stakes Standards-Based Accountability Reform

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ACCOUNTABILITY IN EARLY CARE AND EDUCATION

This entry provides an overview of accountability in the current context of early care and education (ECE). It begins by defining accountability and explains why accountability is important. Next, the entry specifies who in ECE is accountable, what ECE providers are being held accountable for, how accountability is measured, and what recent policy developments are affecting ECE accountability. The entry concludes with a review of the implications of accountability for policy makers, administrators, teachers, parents, children, and the public at large.

Accountability Defined

The term *accountability* in the area of public policy is commonly defined as answerability, liability, and the expectation of account-giving. Accountability for ECE includes informal accountability as well as formal methods such as monitoring, program evaluation, the use of data for continuous quality improvement, and collection of child assessment data to assess learning outcomes.

Early Care and Education Defined

In this entry, the term *ECE* refers to child care (both family child care and center-based care), Head Start, prekindergarten (pre-K), and kindergarten. Table 1 presents the major programs, purposes, and associated accountability details at a glance. Historically, federal, state, and local governments have partially offset the costs of ECE (with parents paying for the majority of child care and private pre-K services) and in recent years, investments in this area have increased.

Why Is Accountability Important?

Accountability systems that are well designed and implemented can provide data that are useful to tailor quality improvement activities to address

needs, hold ECE service providers to higher quality standards, provide evidence on the benefits of particular ECE services or programs, and ensure that public dollars are spent on intended purposes.

Accountability systems are often comprised of the following elements: standards, data processing procedures, and reporting mechanisms. Accountability systems can focus on inputs (such as funding), outputs (such as the numbers and types of children who are being served), processes (such as the quality of care at the classroom level), and outcomes (such as children's school readiness or parental employment). Moreover, accountability can focus on programs as a whole, specific geographic areas, or particular populations. Effective ECE accountability systems articulate what aspect of ECE is being held accountable, who is being held accountable, and how accountability instruments and systems work.

Accountable to Whom?

ECE services and programs are accountable to a range of stakeholders. Parents are the primary audience for ECE accountability as they are responsible for choosing and paying for most of the ECE costs. Parents hold ECE providers accountable by deciding whether to continue to use a particular ECE provider based on their satisfaction with the quality of care. As public funding for ECE has increased, the audience of ECE accountability has also expanded to include policy makers, program administrators, and the public at large.

Specific target audiences of ECE accountability systems vary by program. For example, kindergarten teachers are accountable to principals who report to local school boards and ultimately state education agencies. State-funded pre-K providers are accountable to school districts and states, whereas Head Start providers are accountable to the U.S. Department of Health and Human Services, and child care providers are accountable to the state agency overseeing services. In contrast, privately funded pre-K providers and child care providers have only been accountable to parents. However, with increased public funding for pre-K

and child care, these providers are also being held accountable to the state or local agencies that administer the public funds.

Accountable for What?

Accountability requirements vary across ECE programs. Most publicly funded ECE programs' accountability requirements cover, at a minimum, fiscal issues, program management systems, and standards related to health and safety. All ECE providers are held accountable for offering services to children and families, effectively administering those services, and properly managing funds.

Health and safety standards vary by state and program but most child care standards cover prevention and control of infectious diseases, building and physical space safety, and training of providers regarding health and safety practices.

Separate program-level, classroom-level, teacher/caregiver-level, and child-level accountability requirements exist for each publicly funded ECE program, but these vary substantially. Across ECE programs, accountability standards exist regarding the hours and days of services that must be offered, the types of services that are available, and methods for recruiting children, but the specific standards vary by program. Similarly, ECE program standards exist regarding classroom practices, such as requirements for specific curriculum or standards related to teaching practices. At the teacher level, some ECE programs have specific standards related to teacher qualifications and professional development, and others include standards related to interactions between teachers and children.

With increasing public funding, some ECE programs are required to assess children's learning outcomes. Moreover, many programs require an independent evaluation that documents the quality of instruction and the student learning outcomes.

How Are Programs and Providers Held Accountable?

A range of accountability systems currently exist that employ different methods of data collection, analysis, and reporting. Historically, accountability

for ECE was informal; instead of relying on data, parents used judgments, observations, and portfolios that included pictures of children and samples of materials to determine whether they would continue to use an ECE provider. Parents can also make decisions about their child's participation with specific providers based on whether they are accredited by national accrediting bodies such as the National Association for the Education of Young Children or the National Association of Family Child Care.

Publicly funded ECE programs are held accountable with more formal data collection, analysis, and reporting mechanisms. The accountability systems vary by program, but many ECE programs use similar instruments to evaluate teacher interactions, classroom quality, and child outcomes. The instruments that are most common to assess teacher interactions and classroom quality are the Classroom Assessment Scoring System, which rates the quality of interactions between teachers and children, and the Environment Rating Scales, which evaluate the overall quality of child care centers and family child care homes. The most common instruments to assess child outcomes include Teaching Strategies GOLD, the Work Sampling System, and the Child Observation Record.

While the instruments to evaluate classroom quality and child outcomes are similar across programs, the accountability systems differ. For the most part, child care providers are held accountable for meeting licensing standards through regular submission of paperwork that demonstrates standards are met along with periodic monitoring visits. Trained licensing specialists conduct site visits to ensure compliance with health and safety standards, review files, and verify that submitted paperwork is valid.

Head Start and Early Head Start programs are held accountable through a number of systems and mechanisms including, but not limited to, regular self-reporting that the program meets performance standards, ongoing assessments of classroom quality using a valid and reliable observation tool, regular onsite monitoring visits from an independent team overseen and required by the federal program, and child assessment data collection and reporting.

Table I Major Publicly Funded Early Care and Education Program Accountability at a Glance

<i>Program</i>	<i>Who is accountable for the program?</i>	<i>What is the program accountable for?</i>	<i>How are programs held accountable?</i>
Child Care	U.S. Department of Health and Human Services (HHS) oversees the Child Care and Development Block Grant (CCDBG) and each state and territory's Child Care and Development Fund administrator is responsible for oversight. Some states have a decentralized administrative structure and counties have administrative oversight of CCDBG.	• Fiscal management • Health and safety: prevention and control of infectious diseases, building and physical space safety and health, safety training appropriate to the program setting • Supporting enhanced quality	Licensing/monitoring that requires self-report, paperwork review, and onsite observation and review. Some states publicly report ratings. Quality and rating improvement systems (QRISs) require more intensive paperwork, onsite review, and public reporting.
Head Start/ Early Head Start	HHS provides federal oversight of Early Head Start and Head Start, and each local grantee is accountable for proper administration of the programs. Grantees include large and small community-based organizations as well as school districts.	• Fiscal oversight and program management • Governance, including human resources management, facilities, and equipment • Recruitment, selection, enrollment, and attendance • Health, nutrition, and mental health • Family and community partnerships • Services for children with disabilities • Transportation • Education and development	Regular self-reporting that the program meets performance standards, ongoing assessments of classroom quality using a valid and reliable observation tool, regular onsite monitoring visits from an independent team, and child assessment data collection and reporting.
Prekindergarten	In most states, the state education agency is responsible for oversight of state-funded pre-K and in turn school districts, schools, and, in some states, community-based organizations are accountable for provision of ECE services. The U.S. Department of Education is responsible for a small portion of overall pre-K funds through grants to states.	Varies by state but may cover: • Teacher degrees and credentials, teacher professional development • Screenings/referrals and support services • Curriculum and classroom interactions/quality • Class size • Increasingly focused on child outcomes	Varies by state but most require at least annual documentation and follow-up on-site visit to verify that requirements are met, accompanied by visits from trained monitors. Some states require that an independent evaluator collect program-level, classroom-level, and child-level data to answer questions about the quality and impact of program.

(Continued)

Table I (Continued)

<i>Program</i>	<i>Who is accountable for the program?</i>	<i>What is the program accountable for?</i>	<i>How are programs held accountable?</i>
Kindergarten	Provides half- or full-day education to 5-year-olds. Principals and school boards are required to ensure that kindergarten classrooms follow all state and local requirements (as well as federal requirements for those classrooms that offer services that are provided using federal funds).	Varies by state and district but many are aligned with early learning guidelines and are designed to support: • Children with developmentally appropriate early educational experiences • Social-emotional, cognitive, and physical development • Increasingly focused on academic outcomes in the domains of mathematics and English language arts	Kindergarten classrooms typically follow same accountability standards as elementary schools. Typically principals are responsible for assessing and monitoring the quality of teaching and teachers are responsible for assessing student learning.

Most pre-K programs are held accountable through ongoing monitoring systems that require documentation verifying that requirements are met, accompanied by visits from trained monitors. Some states require an evaluation of the pre-K program in which an independent evaluator collects program-level, classroom-level, and child-level data to answer questions about the quality and impact of the program.

Kindergarten programs are held accountable through the same systems as elementary schools. Typically, principals are responsible for assessing and monitoring quality at the classroom level through observations and teachers are accountable for student outcomes. Kindergarten teachers are increasingly being held accountable for growth in student achievement as states are changing their teacher evaluation requirements.

Recent Policy Developments Influencing Early Care and Education Accountability

In recent years, a number of new policy developments have supported more formal accountability of ECE. These include the development of early learning standards, the development and implementation of quality rating and improvement systems,

the development and use of kindergarten entry assessments, and new federal ECE initiatives, including the Race to the Top—Early Learning Challenge (RTT-ELC) grant, the Preschool Development and Expansion grants, and the Early Head Start/Child Care Partnerships grants.

Early Learning Guidelines

Each state has created early learning standards or guidelines that define the desired content and outcomes of young children's education. Most state standards include domains that cover cognitive content areas (such as early literacy and mathematics) as well as physical growth and development, social-emotional development, and learning styles. The purpose of the standards is to guide teaching, provide parents with information about what they can expect in terms of their child's development, and align curriculum from early childhood through kindergarten. Some states are aligning child outcome measures to the early learning standards to create more cohesive systems of accountability.

Quality Rating and Improvement Systems

A quality rating and improvement system (QRIS) is a systemic approach to assessing, improving, and communicating the level of quality of ECE. It is

typically administered by state agencies. Most QRISs offer parents information about the quality of each participating ECE provider. QRIS accountability standards vary by state, but most states provide ratings in the following categories: (a) physical space and building quality, (b) administrator and teacher qualifications, (c) program administration, and (d) family partnership and engagement. Other indicators of quality used in QRISs include curriculum, interactions between children and caregivers, and accommodations for children with disabilities.

In recent years, some states have begun to include data on teacher quality and child outcomes as part of their QRIS. The goals and accountability mechanisms in QRISs differ. For example, some QRISs are designed with the goal of raising child care quality above the basic requirements of child care licensing, some are designed to provide parents with information, and others are designed to enhance early learning outcomes. Regardless of these differences, most QRISs report ratings to providers, parents, and the public at large to hold programs accountable for quality and guide quality improvement activities.

Most QRIS systems require ECE providers to submit paperwork that demonstrates the provider meets the quality standards, engages in a self-assessment process that reflects the indicators of quality, allows an outside independent observer to use a valid and reliable observation protocol to assess quality, and engages in a continuous improvement process. Some systems require that the providers assess children as part of the QRIS or require independent assessors to collect child outcome data to verify that QRIS levels are associated with increased child outcomes.

Kindergarten Entry Assessments

Kindergarten entry assessments (KEAs) are now being used by a majority of states to provide a snapshot of children's development. KEAs can be used to screen children to identify developmental concerns, to provide teachers and parents with information that can be used to support children's development, and to provide policy makers with information

about trends over time or differences among groups to inform policy and funding decisions.

Federal Initiatives

The RTT-ELC, Preschool Development and Expansion grants, and the Early Head Start/Child Care Partnerships grant program each include specific accountability provisions regarding administration (such as accountability standards for eligibility), provision of services, and child outcomes. The RTT-ELC grants support QRIS and kindergarten entry assessments and the Preschool Development and Expansion grants also support the use of kindergarten entry assessments. The Early Head Start/Child Care Partnerships grant program is designed to support partnerships between Early Head Start and child care, and participating grantees are required to follow separate program, classroom, teacher, and child accountability standards.

Considerations

Each state is responsible for child care licensing and monitoring standards as well as for all aspects of pre-K education with substantial variation in accountability standards and systems across states. Accountability standards and systems regarding who must obtain a child care license, what training is required, how many children can be cared for, and what the physical space requirements are vary by state.

Adding to the complexity, each major ECE program currently has different accountability requirements and systems and requires ECE providers to collect and report accountability data and, in some instances, to be open to monitoring site visits and observations. Each publicly funded program has articulated accountability standards that hold the programs accountable to taxpayers. Publicly funded programs are subjected to the government auditing standards, designed to ensure transparency in allocation of public dollars and to ensure public funds are spent for the intended purpose. With public support, the specific accountability standards for child care, Head Start, pre-K, and kindergarten have to reflect the different intended purposes of these programs.

ECE providers are increasingly collaborating or blending funds from child care, Head Start, pre-K, and other federal or state programs. The differences in accountability requirements can present challenges for providers attempting to create more seamless services for families. Moreover, without aligned accountability measures, ECE providers can be faced with multiple conflicting accountability requirements that take time away from providing high-quality services. For example, a large community-based organization that provides child care, Head Start, and pre-K could be required to accommodate more than five independent observers—one from the national accrediting body, one from child care licensing, one from QRIS, one from Head Start, and one from the state education agency. Similarly, teachers could be required to administer multiple different child assessments to meet the accountability requirements of each separate program.

ECE accountability requirements should be developed with an understanding that the purposes of accountability systems differ for parents, teachers, policy makers, and the public at large. Accountability requirements that are developed in the absence of consideration of how the accountability data will be used by different stakeholder groups can create a burden without actually providing information that improves ECE services.

Without clear articulation of how accountability data will be used, the “accountability system” can result in a number of negative consequences. ECE providers can spend too much time collecting data rather than providing quality instruction, data collection can be duplicative when dealing with competing accountability requirements, and data might be misused or misinterpreted, leading to inappropriate instruction.

Well-designed accountability systems protect the well-being of children and support their development, take into account the needs of parents as well as external stakeholders, and consider the way the system can be used by ECE program administrators and educators to provide high-quality ECE to young children. To be most effective in holding programs accountable for positive outcomes, it is important that stakeholders consider all aspects of

accountability system design and use. When accountability systems work as intended, stakeholders are satisfied and children and families get the high-quality care and education they deserve.

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See also Child Care; Head Start; Policy and Early Childhood Education; Prekindergarten; Prekindergarten Program Evaluation

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ACCREDITATION

In the early childhood profession, accreditation systems assess the quality of early care and education programs that serve young children in group settings, as well as university/college educator preparation programs that prepare early childhood professionals, including teachers. Accreditation provides a systematic approach for a profession to agree upon and identify program quality. In addition, the process of attaining accreditation is a method for programs to improve and sustain quality. Programs achieve accreditation status when self-evaluation is complete and evidence is provided to an accrediting body that standards-based criteria have been met by the program. As an objective standard of quality, accreditation provides consumers with valid information that can be helpful to parents seeking care and education for a young child or an individual who is seeking an educator preparation program, as well as funders seeking sound investments. This entry first gives an overview of accreditation systems and discusses the standards and criteria for accreditation. It then discusses why accreditation standards can be controversial, how accreditation is received, and how accreditation relates to state regulation and quality rating systems.

The status of accreditation recognizes that a program or organization has met designated standards as determined by an accrediting organization. Accreditation systems focused on programs

that care for and educate young children may accredit child care centers, school-age programs, family child care programs, PreK–12 schools, recreational camps, residential programs, or family service organizations with a focus on family and children. Educator preparation programs that lead to an undergraduate or graduate degree at 4-year higher education institutions may be accredited by the Council for the Accreditation of Education Programs (CAEP), and early childhood associate degree programs may be accredited by the NAEYC Early Childhood Associate Degree Accreditation (ECADA). For example, a university early childhood bachelor degree program may be accredited by CAEP, a community college early childhood associate degree program may be accredited by ECADA, and a child care program may be accredited by the National Association for the Education of Young Children (NAEYC). Individuals are not accredited; rather, they may earn a credential or a degree, such as a child development associate credential (CDA), national administrator credential (NAC), associate's degree, or a bachelor's degree.

Accrediting bodies are typically not-for-profit organizations with strong links to the profession, such as the National Early Childhood Program Accreditation (NECPA), or religious organizations, such as the National Lutheran School Accreditation (NLSA). Many accreditation systems are national, although there are some regional accreditation systems, such as Florida's Accredited Professional Preschool Learning Environment (APPLE). These organizations seek to advance their mission by creating standards and an accreditation process that encourage quality improvement of programs. For instance, if part of an accrediting body's mission is to advance high-quality learning environments for young children, the accreditation system would include criteria about indoor and outdoor environments. An accrediting body with a mission to advance educator preparation programs that produce effective teachers would have standards and criteria about pedagogy.

Since the mid-1980s accreditation of early care and education programs has played an important role in professionalizing the field of early childhood

education. In 1985, NAEYC began accrediting programs serving children from birth to kindergarten age and before and after school-age programs. Other early care and education program accrediting systems, including the NECPA system, began in the early 1990s.

Accreditation of educator preparation programs began in 1954 with the National Council for the Accreditation of Teacher Education (NCATE). Over its history NCATE moved to an outcomes-based assessment system. For example, rather than assessing only what objectives are listed on syllabi, criteria are also assessed regarding the outcomes of state or national exams taken by teacher candidates. In 2013 NCATE and the Teacher Education Accreditation Council (TEAC) combined to form the Council for the Accreditation of Educator Preparation (CAEP). In 2006, NAEYC's ECADA began accrediting early childhood associate degree programs.

While the primary focus of accreditation systems is to assist programs in providing care and quality learning experiences for young children, a parallel focus is on assisting families in selecting quality programs for children. In addition, accreditation status assists funders in identifying programs that have objectively demonstrated achievement of specific outcomes. To assist in disseminating information to consumers and funders, most accreditation systems have websites with an accredited program search function to locate accredited programs.

Accrediting systems develop procedures that programs must complete as they work to achieve accreditation. Accreditation systems typically require programs seeking accreditation to meet eligibility criteria, engage in self-study, provide evidence that criteria are met, and allow the accrediting body to verify the extent that criteria are met. The accrediting body then reviews the program's documentation and decides whether or not to award accreditation for a designated period of time. Programs that achieve accreditation then agree to engage in continuous quality improvement based on feedback. Before accreditation status is about to expire, programs then may engage in a renewal process to maintain accreditation.

Standards and Criteria

A program or organization seeks to achieve accreditation status in order to increase quality and receive recognition for meeting quality standards. Standards are developed by the accrediting body that allow for variability in how a program meets standards. For instance, an educator preparation program may have a standard that teacher candidates differentiate instruction to meet the needs of learners. Programs may prepare students to achieve knowledge and skills in differentiated instruction, while utilizing a variety of instructional methods.

Based on the organization's standards and by seeking advice of experts in the field who are knowledgeable of current research and best practices, the accrediting body develops criteria that must be met by the program seeking accreditation. In order for criteria to be valid, it must be aligned with standards, researched-based, and focused on outcomes. For example, there are 10 NAEYC Early Childhood Program Standards: dealing with relationships, curriculum, teaching, assessment of child progress, health, teacher preparation and qualifications, families, community relationships, physical environment, and leadership and management. Each standard has several topic areas with specific criteria, for instance, Standard 2: Curriculum has a topic area focused on technology and a criterion about the use of developmentally appropriate media in early childhood curriculum.

Standards reflect the mission and focus of the accreditation system. In contrast to NAEYC's Early Childhood Program accreditation system, educator preparation programs have standards focused on teacher candidate competencies. ECADA accredits early childhood associate degree programs and has seven standards focused on child development and learning, family and community, assessment, teaching approaches, content knowledge, professionalism, and field experiences. CAEP accredits bachelor's and master's degree programs and has five standards that include sets of standards dealing with content and pedagogical knowledge, clinical partnerships and practice, candidate quality, program impact, and quality assurance. For ECADA and CAEP, each standard has key elements and measurable criteria.

Accrediting bodies may have varying criteria based on the mission and vision of the overseeing organization. For example, an accreditation system that is sponsored by a religious institution may have criteria related to its doctrine of faith. Other accrediting bodies may create criteria focused on the management and administration of the program rather than on curriculum and interactions between staff, children, and families.

Controversy

Standards, while based on current research, reflect cultural norms and societal preferences. Definitions of quality and rigor regarding mandatory and voluntary regulation vary by state and professional organizations. Research continues to inform best practice coupled with an ongoing discourse among early childhood professionals and consumers of services over what constitutes valid criteria. For instance, discourse and comparative research regarding the effect of classroom group size on the outcomes for young children continues within the profession.

Over the years, NAEYC has engaged in a process of criteria and system procedure revisions in response to emerging research, feedback from programs engaged in the accreditation process, and consumers. In its first decade, the NAEYC accreditation system criteria garnered criticism for being based on White, middle-class values. Criteria revisions were made in an attempt to address these concerns and create more valid measures of quality. In contrast, some criticize criteria that require programs to support all types of families.

Process

The process of obtaining and maintaining accreditation typically requires programs to complete a series of steps that begins with an application and, if accepted, access to accreditation information and technical support. The next steps typically include program self-evaluation, completion of identified improvements, collection of documentation, verification of practices, and ongoing annual reports documenting continuous quality improvement and ongoing best practices. Time

requirements to complete each step are determined by the accrediting body. Accreditation is awarded for a period of time and at the end of this period the program begins a reaccreditation process.

Application and Self-Evaluation

The application process requires the program to pay an application fee and verify that it meets certain requirements. For instance, a program may be required to meet minimum state health and safety regulations for group care, such as supervision of children, health department regulations, and fire codes, before being accepted to begin the accreditation process. An educator preparation program may need to verify that a certain number of early childhood courses are currently in a degree plan.

After acceptance by the accrediting body, the program follows a process of self-evaluation by identifying strengths and areas of improvement. In order for the self-evaluation process to be successful, it must include all those working in the program and all those served by the program. For instance, in a program serving young children, the teachers, teacher assistants, support staff, administrators, families, and community members would be involved in reviewing and evaluating the program. For an educator preparation program, the team might include administrators, teaching faculty, teacher candidates, graduates, field site representatives, employers, and community members. The accrediting body provides technical assistance and resources for the program during this time of intense analysis and improvement.

During the self-evaluation process, the program sets goals and an action plan for improvement as it strives to meet the accreditation criteria. For instance, an infant toddler program may determine during the self-evaluation stage of the accreditation process that, based on information from family surveys, the staff need to improve communication with family members at departure time. The program may then have a staff meeting to identify ways to improve communication, as well as meet with a family advisory group to seek its input. New communication methods would be implemented, and

follow-up feedback from families would determine if additional changes need to be implemented.

A similar self-evaluation process is followed by an educator preparation program. The program collects and analyzes data regarding student feedback and test scores during the self-evaluation, as well as data from employers and field experience supervisors. In addition, assessment data of learning outcomes is analyzed. During this process, a program might analyze learning outcomes of a teacher candidate's child development knowledge and determine that additional instructional time is needed regarding infant development. The program would identify a specific course and infant development learning outcomes that would be met during the course.

Documentation Collection and Verification

When the self-evaluation process is complete, the program must then document that criteria are met by collecting artifacts and other documentation. During this step of the accreditation process, the program prepares documents as determined by the accrediting body. Documentation and artifacts may include items such as summaries of survey data, lesson plans, syllabi, meeting minutes, financial records, lesson plans, curriculum documentation, and verification of staff qualifications. Each accrediting body provides specific instructions regarding how the documentation and artifacts are to be presented for review. For instance, NAEYC requires programs serving young children to provide classroom portfolios that align documentation to specific criteria, such as documenting how transitions from one activity to another are conducted in a developmentally appropriate manner. CAEP requires a collection of documents, such as syllabi and data charts, that provide empirical evidence.

Documentation demonstrating that criteria have been met is then provided to the accrediting body along with a submission fee. At this point in the process, most accrediting bodies verify that the documentation is complete and that the program is ready for a site visit by a trained professional or a team of trained professionals. Site visitors are

trained to examine documentation, observe programs in action, and ensure reliable results are reported to the accrediting body. Some accrediting bodies review only documentation and do not make a site visit. Reliability of results is critical, because it assures the consumer that the results would be the same regardless of which trained professional is assigned to review the documentation.

After the documentation is reviewed, verified, and/or assessed, the accrediting body determines if the program will be awarded accreditation status. The determination process varies based on the accrediting body and may involve commissioners, a review panel, or staff of the accrediting body to analyze met and unmet criteria reported by the reviewer. Accreditation status indicates that a program meets criteria as determined by the accrediting body. Accredited programs receive a report indicating areas of needed or suggested improvement to be completed during the period of accreditation. Accredited programs are required to submit periodic reports indicating program changes and updates, such as staff changes; improvements as indicated in the initial feedback from the accrediting body; and any other components of a continuous quality improvement plan.

Accreditation Support Projects

Efforts to aid programs seeking accreditation are typically called accreditation support or facilitation projects and vary in the type of assistance provided to programs. Technical support personnel, support groups, and trained mentors often work with programs during the process. Support may also include training, training funds, tuition reimbursement for credit courses, financial assistance for accreditation fees, grants to purchase materials, and resources to support quality improvement.

Accreditation and Regulation of Early Care and Education Programs

In addition to voluntary accreditation systems that assist programs in improving and maintaining quality, early care and education programs must adhere to mandatory regulations that ensure the

health and safety of children in care. Mandatory regulation for programs that serve young children may consist of local, state, or federal requirements that a program must meet to legally operate as a business. These regulations and stringency of monitoring vary by state. For example, one state may require only a high school degree to be a teacher of 4-year-olds, while other states may have more stringent educational requirements. Monitoring visits to verify regulations are being met may occur once a year in one state, whereas visits may be less frequent in another state. Whereas some states have mandatory regulations regarding social, emotional, physical, language, and cognitive learning domains, other states do not require programs to meet regulations beyond basic health and safety.

In contrast to mandatory regulation required to operate an early childhood program, accreditation is a form of voluntary regulation. Early care and education programs have a choice whether or not to pursue accreditation status. Accreditation criteria are typically more stringent than a state's mandatory regulation. For instance, a state regulation may require that no physical punishment be administered by program staff, but accreditation criteria may be more detailed in indicating the developmentally appropriate guidance techniques that staff should implement to help children learn appropriate behavior, such as self-regulation.

Tiered Quality Rating and Improvement Systems

As a strategy to professionalize the field of early childhood, professional development systems (PDSs) began to form in the 1990s to create a professional infrastructure. With the long-term goal of improving care and education for young children by increasing the qualification of teachers, PDSs were created and supported by organizations or governmental programs. Another goal of PDSs was to increase compensation of teachers and reduce turnover. There is wide, research-based consensus in the field that both increased teacher qualifications and reduced turnover play a critical role in improved child outcomes. As part of the PDSs, career ladders and lattices based on education and

experience were created to guide an individual's professional development. Professional development registries were created to maintain a record of a professional's credit and noncredit training. Some accreditation systems play an important role in the effort to professionalize early childhood by requiring higher teacher and administrator qualification than mandatory regulation.

In conjunction with the development of PDSs, quality rating and improvement systems (QRISs) were created to assist early care and education programs to incrementally move from minimal quality, such as meeting only mandatory regulations, to tiered levels of increasing quality and finally achieving accreditation as a top tier of quality. Many states have four levels of quality in their QRIS and require increased teacher qualifications at each level. In addition, most states with QRISs have tiered reimbursement rates for programs that care for low-income children with accredited programs receiving the highest subsidies.

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See also Early Childhood Education Systems; National Association for the Education of Young Children; Quality Rating and Improvement Systems; Standards

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ACQUISITION OF READING AND WRITING

The importance of learning to read and write cannot be overstated. Well-developed literacy skills are associated with improved economic and social outcomes, whereas underdeveloped reading and writing skills correlate with poor economic and social prospects, an increased chance of incarceration, low self-esteem, and even poor health outcomes. To a great extent, the quality of an individual's life depends upon the robustness of his or her literacy skills. Although these skills continue to develop throughout childhood and into

adulthood, the language experiences that children encounter during the early childhood years are critically important in laying a foundation for eventual success in reading and writing. This entry examines the oral language skills that affect the acquisition of reading and writing; the emergent literacy skills that children develop during early childhood; and the types of learning experiences that parents, teachers, and caregivers can provide to promote optimal literacy development.

Oral Language as the Foundation of Literacy

To become proficient as readers and writers, children require a strong foundation of oral language skills. Those skills begin to develop at birth and should be nurtured throughout early childhood. Consider how proficient reading occurs. A reader must look at a sequence of letter-symbols and translate those symbols into spoken words. Without a familiarity with the spoken form of a word, the reader is unable to identify and understand the written form. Reading also implies an understanding of what is read. Comprehension skills are developed in early childhood through rich oral language experiences in which children speak, listen, make inferences, and ask questions. As children grow and develop, so, too, should their oral language skills. Frequent, high-quality, language-rich interactions with adults are important to ensure that children's vocabularies expand and the complexity of their utterances increases over time. Conversations that prompt young children to remember, or imagine, further promote comprehension by developing the abstract thinking skills that are required for reading comprehension in later years.

Proficient writing also requires a strong foundation of oral language skills. Writing is the means by which a writer transcribes a message into symbols for a reader to retrieve at a later time. To construct a coherent message, writers rely on their knowledge of spoken language, including vocabulary and sentence structure, as well as an understanding of how and when language can be used to achieve a specific purpose. To communicate the message, the

writer must record it, breaking up a stream of speech into individual words and transcribing each word into a sequence of letters that corresponds to the sounds heard in speech. This process is easy for proficient writers, who typically do not need to devote conscious attention to it. In fact, however, identifying individual words from an unbroken stream of speech and isolating individual sounds in words presumes phonological awareness, a set of oral language skills that implies the awareness of, and control over, spoken language.

Phonological skills exist on a developmental continuum. Simple phonological tasks include breaking spoken sentences up into individual words, recognizing rhyming patterns, and identifying syllables in a spoken word. Some children enter kindergarten with rudimentary phonological skills, whereas others may have developed more sophisticated skills, including phonemic awareness. Phonemic awareness refers to the ability to hear and manipulate the individual sounds in spoken words.

When writing, young children rely on phonemic awareness skills to listen for and break apart the sounds in the words that they wish to spell. For example, if spelling the word “bat,” children break the word up into the sounds, /b/-/a/-/t/, then use the letters b-a-t to spell the word. This process also works in reverse. Children rely on phonemic awareness skills to sound out words when reading. For example, when reading the word, “went,” children translate each letter into the sound that it represents, “/w/-/e/-/n/-/t/,” then blend the sounds together to identify the word. It is well established that phonological skills, and particularly phonemic awareness skills, are critically important to the acquisition of reading and writing.

Emergent Literacy Skills

Emergent literacy refers to a body of knowledge, skills, and dispositions that children develop prior to being able to read and write conventionally. The concept of emergent literacy acknowledges the importance of language experiences—both oral and written—in early childhood. Further, it presumes that from birth, children are in the process of gradually becoming literate. Emergent

literacy skills include oral language skills, such as vocabulary, oral comprehension, and phonological and phonemic awareness (as discussed in the previous section); knowledge about the functions and forms of written language, including concepts about print and the alphabetic principle; and motivation, persistence, and self-efficacy.

Functions of Written Language

Children who have had frequent and varied reading experiences learn to view reading as a pleasurable activity that provides entertainment and enjoyment. Reading is also a means to obtain information. Children who have observed and participated in writing activities learn that writing is a way to record information, preserve ideas, and communicate.

Concepts About Print: To be effective as readers and writers, children must understand the conventions associated with written language. Over time, through frequent, repeated, and varied exposures to books, children learn how to handle books appropriately; derive meaning from a book by reading the words, not just by looking at the pictures; follow the direction of the print from left to right, top to bottom, and page to page; and distinguish between letters and words. Children also learn that there is a one-to-one correspondence between printed words and the words that are read aloud and that special symbols, called punctuation marks, are used to indicate to a reader when to take a pause and/or when to change tone or expression.

As emerging readers, young children learn to attend to the symbols (letters, words, punctuation) and patterns (the directionality of print, spacing between words) that cue readers as to the meaning embedded in text. As emerging writers, children experiment with those symbols and patterns. Early writing often consists of pictures, scribbles, and/or familiar letters that are repeated or written in seemingly random sequences. Although such writing does not bear a strong resemblance to conventional writing, it nevertheless represents a child’s emerging attempt to communicate a message through writing, and it should be honored as such.

Alphabetic Principle: The alphabetic principle refers to the manner in which sounds in speech are represented by letters. By drawing attention to sounds and letters, adults can encourage children to learn the names and shapes of letters, how to form those letters, and how letters are used to represent sounds. Children's understanding of the alphabetic principle is often reflected in invented spellings. Invented spelling refers to children's early attempts to spell words by writing the sounds that they hear. For example, a child might use the letters "LK" to spell the word "like." These attempts reflect an appropriate, and temporary, stage of literacy development.

Motivation, Persistence, and Self-Efficacy

By observing and participating in a wide range of meaningful and pleasurable literacy-based activities, young children learn to value reading and writing as indispensable tools for leading a happy and productive life. When children enjoy literacy experiences and feel successful in their early attempts, they are likely to be motivated to learn, to persist at tasks for longer periods of time, and to develop self-efficacy, the belief that they are capable of success. Motivation, persistence, and self-efficacy are all important factors that affect how well and how quickly children gain mastery over literacy skills.

Promoting the Acquisition of Reading and Writing

In 1998, the International Reading Association and the National Association for the Education of Young Children adopted a joint position statement that identifies developmentally appropriate practices during the early years (birth to preschool), kindergarten, and the primary grades. Some of these important practices are described here.

The Early Years. Young children require a loving and supportive environment in which to learn and grow. Children are most receptive to learning when they feel happy and emotionally secure. To promote literacy learning, adults can begin exposing

infants to songs and rhymes; games, such as peek-a-boo and pat-a-cake; and developmentally appropriate books, including board books and ABC books. Such literacy experiences should be interactive, developmentally appropriate, and focused on the pleasure of the experience.

During the early years, wide and varied exposure to high-quality books is essential for optimal literacy development. Ideally, young children should be read to several times a day, often when seated in the lap of a loving and attentive caregiver. During reading experiences, children should be encouraged to interact with texts by making predictions and observations, asking and answering questions, and chanting along with familiar or predictable phrases. Post-reading discussions should encourage children to retell favorite events and make connections between the world in which they live and the world of books. Favorite books should be reread as requested. Children of all cultures should be respected and valued and those whose first language is not English should be encouraged to continue to develop proficiency in their first language even as they gain exposure to spoken and written English.

Preschoolers should have easy access to home and classroom libraries that consist of varied and appealing texts. These collections can be supplemented by regular visits to the school or public library. Comfortable, well-lit spaces encourage young children to "pretend read" and explore books independently and with others. A space for writing should be well stocked with writing tools and supplies. Adults should draw children's attention to environmental print, including labels, signs, and logos. Classrooms, in particular, should be print-rich and provide opportunities, spaces, and materials for reading, writing, and dramatic play.

Kindergarten. Literacy instruction in kindergarten should be both active and social and should take into account children's emerging reading and writing skills. In kindergarten, as throughout the early childhood years, adults should deliberately enhance children's vocabularies by reading high-quality books aloud, using interesting words in conversation, and talking about the meanings of new

words. Rereading books multiple times serves to promote increased comprehension. With wide exposure to different types of texts, children begin to notice that different genres, such as stories and informational text, are structured differently and are read for different purposes.

In kindergarten, instruction should emphasize how spoken language can be written down and read back. This objective can be achieved through shared and independent reading and writing, language experience charts, encouraging children to dictate sentences or stories, and providing instruction related to letter names and sounds. In addition, teachers should take care to assess children's phonemic awareness skills so as to provide targeted instruction on an as-needed basis.

The Primary Grades. By the time children reach the primary grades, literacy instruction is more formal and children's reading and writing behaviors more closely approximate conventional reading and writing. Primary-grade students should receive systematic instruction in the alphabetic code so that over time and with practice, they are able to recognize words quickly and accurately, thereby devoting the bulk of their attention to comprehending what they read. Reading instruction should include teaching children how to monitor their own comprehension so that they can recognize when something does not make sense. Children should also be taught how to use strategies deliberately to improve their comprehension (e.g., rereading a particularly dense passage). Writing instruction should begin to emphasize content rather than merely form. Throughout the primary grades, ample opportunities for practicing literacy skills should be provided at home and at school, so that by the end of the early childhood years, children are well on their way to becoming competent, independent readers and writers, capable of learning from texts and expressing their ideas effectively through writing.

Heather A. Kenny

See also Child Development and Early Childhood Education; Children's Writing; Early Literacy Development; Literacy; Oral Language Development; Reading

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- Reading Rockets: <http://www.readingrockets.org>

ADOPTION

In most contemporary societies, including the United States, family structures are becoming more and more diverse. One such family structure is families that have adopted one or more children.

Adoptive families experience the same joys and challenges of all families. As is the case with other families, adoptive families may have a child with an identified disability and may experience health challenges, financial stress, divorce, and other family struggles. Adoptive parents may be older, single,

gay or lesbian, or in an interracial relationship. But adoptive families must deal with the adoption process itself, and in many cases, adopted children are of a different race, ethnicity, and/or nationality than their parents and siblings. In this entry, the focus is on these two unique aspects of adoptive families.

Quality early childhood programs support adoptive families in two very different ways. First, they acknowledge, embrace, and support the child's unique identity and family context. This includes providing curricular materials, including books, posters, games, and so on, that relate to the child's culture; encouraging adult-child interactions that support the child's identity development; and directly intervening when children and adults use language or engage in behaviors that are destructive or bullying to these children.

The second way quality early childhood programs support adoptive families is by working directly with the adoptive parents. This requires all staff in the program to (a) consult with parents around issues of adoption and racial, ethnic, or national identity, and (b) provide parents with information, resources, support, and guidance regarding their unique family.

Staff in quality early childhood programs understand adoption issues, know about racial, ethnic, and national identity development, are aware of the powerful impact of curricula and peer behavior on identity development, and are informed about resources in the community for families of adoptive children.

Theoretical Perspectives

In understanding young adoptive children and their families, several theoretical perspectives are valid, including Urie Bronfenbrenner's bioecological theory, Jean Piaget's cognitive development theory, Lev Vygotsky's sociocultural theory, and behaviorism.

Bronfenbrenner's theory examines the interrelatedness of all contexts that impact the growth, development, and learning of children. This theory also stresses that when these important ecological contexts work in unison to meet the physical,

social, emotional, moral, and cognitive needs of the child, the child's development and learning are maximized.

Piaget's stage theory is particularly helpful in showing how preoperational children (2 to 7 years old) focus on physical appearance to understand the world, including forming their own identity. The theory relies on a concept known as centrism (limitations in the ability to focus on multiple aspects of the self) to explain the preoperational child's struggle in understanding complex constructs.

Vygotsky's theory details the tremendous impact of the child's social and cultural environment on the child's learning and overall development. Attitudes and behaviors of peers and staff are, therefore, critical.

Finally, behaviorism informs us that behaviors and attitudes that are modeled and reinforced will increase and may eventually become permanent. Thus, how teachers respond to the language and behaviors of peers toward adoptive children in the program, and teachers' own language and behaviors toward these children, is very important. It is critically important to avoid reinforcing stereotypes regarding adoptive children and various racial, ethnic, and national groups to support children's optimal development.

Adopted Children and Developmental Issues

According to the 2010 U.S. Census, approximately 2% of American children are adopted. Parents adopt for a variety of reasons. Highly qualified early childhood staff accept these parents as sincere, dedicated parents, just like other parents they serve in their program. Some adoptions today are what are called open adoptions, where parents and children have some contact with one or more of the birth parents and everyone can access relevant information. However, this is not always possible, especially with international adoptions, where the birth parents are often not known, particularly if the child was adopted from an orphanage.

Some children are infants when adopted; others are older—especially those who are classified as

“difficult to place,” such as children with special needs. More and more adoptive parents are telling their children that they are adopted, usually during the preschool years. Parents expect their child’s early childhood programs to support the position that it is better to tell young children they are adopted. Like all complex constructs, adoption is difficult for a young child to understand, especially when most of the child’s peers are not adopted. By the end of the preoperational stage (about 7 to 8 years of age), most children can appreciate the difference between birth and adoption. During the preschool years, adopted children focus on the positive experience of being adopted—that someone loves them enough to adopt them—and on finding ways to handle differences with their peers and parents. Quality early childhood programs work closely with each parent to determine how they want issues of adoption to be addressed.

During the preoperational stage, children become very aware of physical differences in people, both children and adults. A child who does not look like either parent is going to begin to wonder why he or she does not look like them. Also, these children, similar to biracial children in birth homes who do not look like one or both of their parents, can be greatly influenced when other children and adults express confusion over their relationship to their parents.

Between ages 7 and 11 (Piaget’s concrete operations stage), adopted children begin to realize that their family composition is different from that of most children. They begin to understand that they have birth parents, grandparents, and maybe even siblings somewhere in the world. They wonder why their parents gave them up and whether there was something wrong with them. They may become fearful that their adoptive parent(s) might also give them up. They may become more fearful and often angry. Quality early childhood programs are sensitive to both cognitive and emotional changes in adopted children and work closely with adoptive parents to provide needed resources and to help parents create or join support groups, if desired.

These programs also make sure that any discussions and presentations of the family unit (e.g.,

family doll sets, books, puzzles, content in the curriculum, art, etc.) include adoptive families. Furthermore, the idea that children naturally look like their parents is challenged whenever it comes up, including in visual portrayals of families in the classroom and throughout the center or school. Finally, preschool-age adopted children, like other preschool-age children, typically view their parents as heroes and want to be just like them; in particular, boys want to be like their fathers, and girls like their mothers. Thus, a child from China or Africa who does not look like his or her White adoptive mother or father may express, either at home or in an early childhood program, that he or she wants to look like his or her father or mother. Staff should accept this, and not correct the child; they should also help adoptive parents understand this is natural, appropriate, and healthy.

Racial/Ethnic/National/Cultural Identity

Because of the increased acceptance of unmarried mothers keeping their children, and more minority than White children being placed for adoption, many White adoptive parents in the United States adopt children from foreign countries or U.S. minority children. As of 2015, according to the U.S. Department of State, the countries of origin for the largest number of children adopted by U.S. parents were China, Ethiopia, Haiti, South Korea, and Ukraine. Most of the children from these countries are considered members of racial or ethnic minorities in this country, while the vast majority of adoptive parents are White. This poses a unique challenge for adoptive parents and for early childhood programs, regardless of the racial or ethnic composition of these programs.

Preschool-age children recognize when they look physically different from their parents and their peers. In programs where one race dominates, be it White, Black, Hispanic, Asian, or other, children naturally are curious about a child who does not look like them and does not come from a similar background. These differences can be accepted, embraced, and celebrated through books, activities, learning centers, music and art, visitors to the

classroom, and more. It is important, however, that programs avoid tokenism and a so-called tourist approach to diversity. Tokenism is a minimum effort at integration that involves, for example, having one Black doll, one White doll, one Asian doll, one Hispanic doll, and one Native American doll, which then tends to reinforce stereotypes rather than increasing children's deep understanding of racial and ethnic diversity. An example of a tourist approach would be only highlighting the food and clothing of a child's native country.

Care must be taken when supporting a child's racial, ethnic, national, and cultural identity. The U.S. Census categories, which are used in multicultural texts and training, are not used in most other countries. For example, a Black child from Somalia is not African American, a Maya child from Guatemala is not Hispanic, and a child from Korea has a very different cultural heritage compared to a child from Japan or China. Furthermore, most countries contain within them a rich diversity of racial and ethnic, and sometimes tribal, groups. Thus, a child from Brazil is first and foremost Brazilian, and then maybe Afro Brazilian (Black), Amerindian (indigenous), Middle Eastern, Asian, European, or mixed race (Brazil's official government categories).

Most countries have several social class levels (and in many countries these distinctions are more extreme than in the United States). The initial culture of the adopted child will depend largely on his or her family's social level in the child's home country. Identity development is critically important during the preschool years, and therefore it is important that, to the extent possible, a child adopted from another country is exposed to those in the community from the same nation, culture, and/or ethnic group as the child. At the same time, if the adoptive family is middle class and living in a middle-class community, their children also will be culturally middle-class. Biracial children, no matter what country they come from, require special attention. In many geographic regions or countries, being biracial carries a stigma. Thus, biracial children need help embracing their full mixed heritage in a society fixated on a single race and ethnicity

view of identity. To form a healthy identity, biracial children with a White parent need to be exposed to both their minority heritage and their White heritage in the early childhood program, out-of-school activities, and community events. If the child is a mixture of minority heritages, such as Black and Asian, the child needs to be exposed to both backgrounds. Finally, biracial children need help integrating their full racial identity.

Quality early childhood programs ask adoptive parents how they support their children's healthy identity development. This provides the program an opportunity to work with the family, provide needed resources, and expose other children in the program to diverse racial and ethnic cultures. When seeking experts to work with adoptive children and their families, programs need to make sure that these experts fully understand this unique population. They need to be knowledgeable about the adoption of young children, transracial adoption, and identity development of biracial children. The program can ascertain this by talking to the experts and to parents of the children.

Young children are very adept at learning the language of their new country. However, an early childhood program can include some of a child's home language in the program, which allows the child to teach others and to feel special because he or she knows a foreign language. As the child grows older and becomes curious about his or her home country, language becomes an important part of the child's identity.

Francis Wardle

See also Bioecological Theory; Cognitive Developmental Theory; Cultural Diversity; Diversity in Early Childhood Education; Family-Centered Practices; Multiracial Families; Sociocultural Theory

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AFFORDABILITY

Families need child care and education services for their children for a variety of reasons. Working families, including single parents, need child care for children as young as 6 weeks old to return to work after the birth of a child. Parents may need full- or part-time child care to attend high school or higher education. Other families choose preschool experiences to help children learn social and academic skills before attending public or private elementary schools. Regardless of the purpose of child

care and early childhood education, most settings require families to use a significant portion of their income to pay for it. This entry describes the costs and affordability associated with various types of early care and education options.

Cost of Care and Education

Many families struggle to pay for child care and education for young children. Child Care Aware of America ranks states according to the affordability of child care, based on child care costs and state median incomes. According to the organization, in 2013:

- The average annual cost for an infant in center-based care was higher than 1 year of tuition and fees at a 4-year public college in 31 states and the District of Columbia.
- The cost of full-time center-based care for two children is the highest single household expense in the Northeast, Midwest, and South.
- In the average family budget in the West, only the cost of housing was greater than the cost of child care for two children.

Unlike public education for kindergarten through 12th grade and higher education, early care and education is not widely subsidized by tax dollars. The financial burden for child care rests primarily with families, with some exceptions for families with low incomes. That is why child care represents such a high cost for individual families, despite the fact that child care workers' pay is relatively low, and, according to Child Care Aware of America, as much as 80% of child care business expenses are for payroll and related expenditures. The Bureau of Labor Statistics reported in 2014 that child care workers earn an average of only \$10.44 per hour.

Public support is growing for government, business, and philanthropic groups to financially support early care and education. However, there are still people who believe that children should be at home with their mothers before entering kindergarten and who resist public investment in programs that assist mothers in leaving their children while they are employed outside the home.

For many families, including single parents, there is little choice of whether or not to work outside the home. In every state, according to Child Care Aware of America, the average cost of center-based infant care exceeds 23% of the median income for single parents. A U.S. Census 2013 household economics study reports that parents who are earning minimal pay (earnings below the poverty level) spend 30% of their income on child care costs.

Supports for Families With Low Income

Programs that subsidize the cost of early care and education exist but do not support all of the families that would qualify for assistance. The two primary subsidized programs are the Child Care and Development Block Grant (CCDBG) and Head Start (including Early Head Start).

The CCDBG, a federal program, provides grants to states to subsidize the cost of child care for working families. States then offer funds that assist low-income families to pay for their choice of child care arrangements. Low-income families are defined as families who earn up to 185% of the state median income. Families must also contribute through a co-pay system. Although about 1.7 million children receive assistance through CCDBG, according to 2010 U.S. Census data, these funds only serve approximately one out of every six eligible children, leaving millions of low-income families without financial assistance. Until 2014, the CCDBG had been flat funded since 2002.

Head Start, federally funded since 1965, provides early care and education to more than 800,000 children aged 3 and 4 years. Head Start programs serve children living below the poverty level and children with disabilities. Children in Head Start programs receive comprehensive health, family, and education services. Child Care Aware of America reported in 2014 that Head Start programs serve approximately 40% of income-eligible children.

Early Head Start, added with the reauthorization of the Head Start Act in 1994, serves infants and toddlers through center-based or home-based programs. In 2013, Early Head Start programs

served 150,100 children and 6,391 pregnant women and their families. Early Head Start serves less than 4% of income-eligible children according to Child Care Aware's 2014 report, *Parents and the High Cost of Child Care*. Some Head Start programs only provide care and education for less than half of a typical work day, requiring families to piece together other arrangements if they are employed while their children participate in Head Start programs.

Unintended Consequences of High Cost of Care and Education

Families with young children are typically at the beginning of their careers, with lower salaries, and have less experience making decisions about their children. When facing the high costs of care and education, families may choose other no- and low-cost options to avoid paying for regulated care. These options may include close family members, such as grandparents, but also less familiar family members, neighbors, or acquaintances.

According to 2011 U.S. Census data, 61% of children under the age of 5 are in some type of child care arrangement, with 42% of children cared for by a relative, 33% by a nonrelative, and 12% by both. Less than one quarter of all preschoolers in 2011 were cared for in organized facilities, with child care centers (13%) being more commonly used than nursery schools or preschools (6%). Eleven percent of preschoolers were in home-based care provided by nonrelatives, with 5% cared for by family child care providers.

Caregivers in nonregulated settings have not typically completed background checks, training, and education. Over time, families may be concerned that the caregivers are not meeting their child's needs, reducing working families' confidence in their child care choices. Informal child care settings may also not be reliable or consistent in providing daily care and education.

Although less expensive, informal arrangements may meet the needs of some children and families, these arrangements may cost more when families are not able to work consistently because of the

instability and unreliability of people who provide these services “at will” rather than as an organized business. The impact of lost wages is experienced not only by families but by businesses as well. Child Care Aware of America reported in 2014 that U.S. businesses lose \$3 billion annually because of employee absenteeism as the result of unscheduled child care breakdowns.

The impact of informal child care arrangements on children’s development and learning may not be immediately visible but may emerge as children enter school. The Maryland State Department of Education has found that children who have attended regulated programs enter kindergarten with more skills compared to children who attended informal or unregulated settings.

Quality of Care and Education

Affordable early care and education at any level of quality is not available to many families, especially families living in poverty. Access to affordable high-quality care and education is even more limited. Higher quality care and education requires increases in salary expenses to attract and retain teachers with increased qualifications, provide planning time for teachers and administrators, fund staff for lower child-to-teacher ratios, and provide for ongoing professional development.

Recent public investments in increasing the quality of early care and education have targeted access for children from low-income families. Race to the Top—Early Learning Challenge (RTT-ELC) grants have been awarded to 20 states in three phases since 2011, totaling just over \$1 billion. The purpose of the RTT-ELC program is to help states reach the goal of having all the nation’s children enter kindergarten ready to succeed, with the focus on ensuring that children with the highest needs have increased access to high-quality early learning experiences. The RTT-ELC program identifies children with high needs as those whose families live below 200% of the poverty level (\$46,100 for a family of four in 2012).

States use quality rating improvement systems (QRISs) to assess early childhood program quality

and communicate the level of quality to families. Programs typically receive financial incentives for serving low-income families, and low-income families are encouraged to use subsidy funds with QRIS programs at higher levels.

In December 2014, states that received RTT-ELC funding reported a 43% increase in the numbers of children with high needs enrolled in Child Care and Development Fund (CCDF)–funded programs in the top tiers of their QRIS.

Practices That Affect Affordability

Child care costs to families are highest for children who are infants, up to 1 year old. To maintain a ratio of infants to adults that allows for the individual level of care needed for an infant requires a program to hire more teachers than for the same number of older children. The National Association for the Education of Young Children (NAEYC) recommends a ratio of one adult to three infants, with a group size of six infants and two teachers. Because of the high cost of staffing care for infants, many early care and education programs choose not to serve infants, and those that do must charge higher fees to balance costs. Programs also rely on higher child-to-teacher ratios in preschool classrooms to subsidize the costs related to infant care.

Other countries have implemented protected job leave and financing policies to allow parents to stay home with their infants during the first weeks or months before returning to work. A 2009 study by the Center for Economic and Policy Research reviewed policies in 21 high-income economies. Protected job leave varied across the 21 countries, from only 14 weeks in Switzerland to more than 300 weeks in France and Spain. The United States, with 24 weeks of combined protected job leave for a two-parent family, ranks 20th in the amount of protected job leave available. Financial support for parents is provided by almost all of the countries, typically ranging between 3 months and 1 year of paid leave. The United States is one of only two countries to offer no paid parental leave. Australia also offers no paid leave, but the country financially

supports new parents whether or not they take parental leave.

Financial support for families to care for their own infants has reduced the need for financing group care in other countries. The U.S. Family and Medical Leave Act (FMLA) establishes standards for parental leave but has many loopholes, and only about one fourth of U.S. employers offer fully paid “maternity-related leave” of any duration. In addition to government policies, businesses have an opportunity to support working families to make caring for their own infants an affordable option.

The Future of Affordable Early Care and Education

The affordability of early care and education is now in the national spotlight. During his 2015 State of the Union Address, President Barack Obama announced:

In today’s economy, when having both parents in the workforce is an economic necessity for many families, we need affordable, high-quality child-care more than ever. It’s not a nice-to-have—it’s a must-have. So it’s time we stop treating childcare as a side issue, or as a women’s issue, and treat it like the national economic priority that it is for all of us.

It will take financial and social investments at national, state, and local levels to find affordable early care and education options that meet the diverse needs of U.S. families and their children. At the same time, much more needs to be learned about the elements of quality early care and education that positively impact children and families. It is not enough to have affordable options; children deserve culturally and developmentally appropriate experiences in their first years of life that nurture and stimulate their hearts and minds.

Annette Searfoss

See also Child Care; Child Care Assistance and Child Development; Child Care Policy and Practice; Head Start; Quality Rating and Improvement Systems

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AGGRESSION

The term *aggression* is used to describe angry and hostile acting-out behaviors. While definitions of the term differ somewhat, in the 2012 edition of *Challenging Behavior in Young Children*, Barbara Kaiser and Judy Sklar Rasminsky define aggression as “behavior that is aimed at harming or injuring others.” The authors state, “Challenging behavior isn’t always aggressive . . . but aggressive behavior is always challenging” (p. 13). This entry discusses reasons why young children show aggression, forms and patterns of aggression in

young children, and consequences of the use of aggression for children's development.

As children grow through the preschool years, increasing communication skills and social awareness reduce the need to use aggression during conflicts (expressed disagreements). Young children find the growing ability to put thoughts and feelings into words a powerful tool in social transactions. Along with this positive incentive, their growing awareness that "hurting is wrong," and that children who show aggression get rejected, provides a distinct disincentive. Together the mix of positive and aversive incentives leads to a gradual reduction in the general population of this archetypal challenging behavior.

Still, throughout early childhood some children continue to show pronounced patterns of aggression. In the early years, the child's brain has *plasticity* (the ready ability to build neuron networks in response to experience). During this time, the preschooler is just beginning to form the neuronal architecture in the thinking centers of the brain that allow for *executive function*. Healthy executive function involves abilities regarding the management of impulses, memory activity, cognitive processing, and effective social interaction.

According to research summaries by Megan Gunnar, Adriana Herrera, and Camelia Hostinar, by Roy Lubit and Eileen Giardino, and by Jack Shonkoff and Andrew Garner, children who see their worlds as threatening experience high levels of stress (*toxic stress*). Perceived threat causes brain reactions involving the hormone cortisol that short-circuit the thinking centers involved with executive function. Instead these reactions hyperstimulate the *amygdala* and related parts of the brain that initiate fight, freeze, or flight survival reactions. Children who experience toxic stress show survival-motivated behaviors that frequently include the use of aggression in everyday situations. In such circumstances, normal developmental incentives to move beyond the use of aggression become overwhelmed.

Forms and Uses of Aggression

Two *forms* of aggression in relation to young children are (1) physical aggression, which includes

hitting, kicking, biting, pinching, and similar acts—that is, using physical violence to force one's will upon another, and (2) psychological aggression, which includes verbal assaults, teasing, threatening rejection, ignoring, or otherwise excluding, and so on—using verbal oppression rather than physical force. Anne Williford and Kathryn DePaolis point out that as children grow, physical aggression is more commonly attributed to boys and psychological aggression to girls, although both boys and girls can show either kind, as well as both forms together.

Kenneth Dodge has made a helpful distinction between two *patterns* of aggression: *reactive aggression* and *instrumental aggression*. Reactive aggression is a spontaneous hostile reaction by a child to a perceived imposed threat by another. The child acts out against the other in order to protect himself or herself. The younger the child is, the more likely aggression is to be reactive. Reactive aggression frequently occurs in conflicts over property possession and space encroachment.

An illustration of the use of physical reactive aggression is when a child has Play-Doh that another takes. The first child pulls the other's hair, hits, or pinches in a reaction to the incursion. An example of psychological reactive aggression is a child walking in line who gets his heel accidentally stepped on. He wheels around and yells at the child behind him, "Don't do that, you butthead!"

Concerning the patterns of use, instrumental aggression often is the more vexing for adults who care for young children. Children who show instrumental aggression usually have not lost control of emotions. They use aggression intentionally to achieve a goal. The goal may be obtaining a particular object, gaining a desired privilege, or oppressing another in order to force subservience (i.e., bullying). An example of physical instrumental aggression is an older child forcibly removing a younger child from a tricycle so the older child can ride. An example of psychological instrumental aggression is an older child announcing to another that he or she is too "little" to complete a puzzle—a puzzle that happens to be the favorite of the older child, who has just arrived at the puzzle table.

With instrumental aggression, the child is not just reacting defensively to a perceived threat. Instead, the child is acting to achieve a goal that he or she perceives is being blocked by the threat. Williford and DePaolis point out that instrumental aggression involves not only brain operations that are threat-based but also operations that are pleasure-seeking. Key here is that both types of aggression, and not just reactive aggression, arise from toxic stress in the brain. Both types of aggression are symptoms that children are experiencing stress levels beyond their ability on their own to manage in healthy ways. In an unfortunate sense, instrumental aggression is testimony to the learning capabilities of young children even when they are living with toxic stress.

Consequences of Use of Aggression

Any child might try instrumental aggression on an experimental basis. For a statistically small number of children, however, patterns of instrumental aggression become ingrained. Instrumental aggression becomes an ongoing survival strategy. These children learn, in the presence of a threatening world, that the use of instrumental aggression might be successful in achieving their aims. Even if not, the consequent conflict, which often involves an adult, results in an adrenalin hormone rush that for a while masks the cortisol-induced stress that motivated the instrumental aggression in the first place.

One traditional approach to both patterns of aggression has been to presume the child is being “bad” and punish in order “to shame” him or her into being “good.” The problem with this approach is that punishment tends to keep the child’s stress at toxic levels and makes healthy executive functions more difficult to learn. The dynamics of early brain development mean that the young child lacks the resources on his or her own to deal with the stress in ways other than a continued show of aggression. A cycle of

Stress that leads to conflict involving aggression
Accompanied by an adrenalin rush
Followed by punishment and rejection by others
Leading to sustained stress

is not one adults should reinforce in young children.

Gunnar, Herrera, and Hostinar conclude that reinforcement of this cycle in a young child can lead to a significant long-term degradation of chances for social-emotional health and educational and vocational success. Unless adults build relationships with children that create trust, reduce stress, and teach socially responsive resiliency skills, these children suffer lasting difficulty with brain development in relation to healthy executive function, constructive social relations, and fundamental mental health.

Dan Gartrell

See also Brain Development; Conflict Management; Emotional Development; Executive Functioning

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ALLIANCE FOR CHILDHOOD

The Alliance for Childhood began in Europe in 1998 and in the United States in 1999 when educators and health professionals met out of a deep concern for the decline in children's health and well-being. Its goal was to highlight the profound value of childhood as well as its vulnerability. Its projects bolster the healthy essentials of childhood, which include relationships with caring adults and with nature, creative play and the arts, hands-on experiences, and a sense of the sacred. Its publications and educational campaigns have focused on the need to restore creative play to childhood and to reduce the overuse of screen time in childhood, which interferes with so many of the healthy essentials. The Alliance partners with many organizations and individuals to promote policies and practices that support children's healthy development, love of learning, and joy in living.

Childhood as a Whole

At its founding meeting the participants shared their deepest ideals about childhood. Their words were then woven together into a verse that ends with these lines:

The spirit of childhood calls for protection and nurture.

It is an essential part of every human being

and needs to be kept alive. (Alliance for Childhood, n.p.)

As of early 2015 the Alliance was working on two international endeavors to strengthen childhood as a whole. One is the Decade for Childhood: 2012–2022, which is spearheaded by the Association for Childhood Education International, which organizes a summit on the state of childhood every two years. The Decade for Childhood highlights the problems associated with poverty, abuse, and neglect, as well as those associated with the high-pressured lives experienced by many children today regardless of their socioeconomic background. The U.S. Alliance is also part of an international working group with its partners in Europe and Brazil that organizes international conferences from time to time.

A Critical Look at Computers in Education

In addition to focusing on childhood as a whole, the Alliance for Childhood works on specific areas of concern. Its first report, *Fool's Gold: A Critical Look at Computers in Education*, received worldwide media coverage. It raised the question of why U.S. schools were devoting so much time and money to computer-based learning when there was no evidence that it made a significant positive difference in the education of children. It was published in 2000; the same question can be asked today, for there is still little evidence that computers in early education and elementary schools enhance the quality of education or improve its outcomes, compared to investing in sound teaching approaches that integrate the arts and foster curiosity and creativity.

The Alliance for Childhood has continued its focus on digital technology in early education by partnering with two other organizations to write a 2012 report, called *Facing the Screen Dilemma: Young Children, Technology and Early Education*,

summarizing studies about screen time. It discusses ways to include screens in early childhood settings, as well as reasons to teach without them.

Restoring Play to Childhood

In 2005 the Alliance began a campaign to restore child-initiated play in neighborhoods, schoolyards, and early childhood settings. Play was no longer valued and children were given little time for it. Instead, their days were filled with organized activities, large amounts of screen time, and increasing amounts of homework. Parental fears kept children indoors, and some neighborhoods—even perfectly safe ones—looked like ghost towns. No longer did bands of children roam the neighborhood, playing on the sidewalks or in local parks.

Gradually, with the help of major media coverage about the value of play, and the work of the Alliance and other organizations, such as KaBOOM!, the mind-set about play has changed. Surveys now indicate that most parents want their children to play more frequently but are not sure how to accomplish it, for they want some degree of supervision. For this reason the Alliance turned to the adventure playgrounds of Europe and California as models of challenging, well-rounded play spaces. Here elementary-age children, in particular, play freely in the presence of staff often called playworkers. They are well educated in play for all ages and lend support to children's play without dominating or directing it.

To educate the public and professionals about play and playwork, the Alliance has developed publications, videos, and fact sheets, and has offered many workshops. It has recently focused on the role of risk in children's play and the benefits of dealing with age-appropriate risk in childhood. When children are faced with risk they rise to it, using their innate sense for risk assessment.

Adults' fears of injury and liability serve as a major deterrent to children's freedom to play. Yet studies of adventure playgrounds, which offer children as much risk as they can handle, found that accident rates were relatively low, that there were few lawsuits, and that insurance companies

considered them to be no more dangerous than swimming pools or other activities run by parks departments.

Enhancing Play-Based Experiential Learning in Early Childhood

The Alliance is strongly focused on the need for play-based experiential education in preschool and kindergarten. Children of these ages are naturally inclined to absorb content offered in experiential ways, especially when combined with time for child-initiated play. Yet these proven approaches have been largely replaced by didactic instruction in kindergarten, including time spent with worksheets and even scripted curricula. These new approaches have not been shown to yield long-term gains. The pressure to prepare children for current kindergartens—where they are expected to read and perform in other ways previously associated with first grade—means that preschools are being pressured to become more instructional and less experiential. As a result, there is growing concern about serious behavioral difficulties beginning in preschool and especially affecting boys, who find it very difficult to sit still and concentrate for large amounts of time at this age.

The Alliance for Childhood has published articles and reports on the value of play-based experiential learning in preschool and kindergarten, including a 2015 paper titled *Reading Instruction in Kindergarten: Little to Gain and Much to Lose*. As of early 2015, it was developing a digital resource with videos on this subject. This resource will be freely available, along with other Alliance publications, on its website.

Joan W. Almon

See also Child Development and Early Childhood Education; Child-Initiated Learning; Creativity; Play, Benefits of; Play and Early Childhood Education

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AMERICANS WITH DISABILITIES ACT

In 1990, the Americans with Disabilities Act (ADA) was passed in an effort to stop discrimination against people with disabilities. For the purposes of the ADA, a person is considered to have a disability if he or she

- has a physical or mental impairment that substantially limits one or more major life activities,
- has a history of such an impairment, or
- is regarded as having such an impairment.

Unlike the Individuals with Disabilities Education Act (IDEA), which functions to provide a free and appropriate public education for individuals ages

birth to 21, the ADA provides these protections across the entire life span. The act is subdivided into five parts referred to as “titles.”

Title I: Employment

Title I of the ADA was written to prevent discrimination of people with disabilities at work. This law applies to private employers who have more than 15 employees, state and local government agencies, labor unions, and employment agencies. According to Title I, no employer can discriminate against qualified job applicants because the applicant has a disability.

In addition, Title I makes it illegal to ask a person about his or her disability during the employment interview. However, potential employees may choose to discuss their disability and ask for accommodations that will enable them to perform the functions of a particular job. Such accommodations may include equipment modifications such as adaptive keyboards or a specific type of desk that is fitted for a wheelchair. Title I further states that an existing employee with a disability may ask for reasonable accommodations while at work.

Once an accommodation is requested, the employer and the employee should discuss the individual's needs and identify an appropriate reasonable accommodation. However, if the requested accommodation creates an undue hardship on the employer, the employer may look for another accommodation instead or, in some cases, may opt not to provide any accommodation. The employer may also choose the least costly accommodation in the event that one of several possible accommodations is needed.

Other aspects of Title I are as follows:

- It is unlawful for an employer to ask job applicants about their disability including the extent, severity, or medical aspects of that disability. An employer may ask job applicants if they are able to perform certain aspects of the job. In addition, the employer may conditionally offer an applicant a job based on the results of a medical exam, but can only do so if such an

examination is required of all employees doing the same or a similar job.

- Medical records, medical exams, and requests for accommodations are to be kept confidential.
- Drug and alcohol abuse are not covered by the ADA. Testing for use of illegal drugs and/or alcohol is not subject to the confidentiality rules for other types of medical records.

Title II: Equal Access

Title II covers activities and programs of all state and local governments and mandates that they provide people with disabilities an equal opportunity to benefit from and participate in all of their programs, services, and activities. This includes public education, employment within the government, transportation services, parks and recreation activities, health care such as state and local health departments, social services, courts, voting, and town meetings.

Under Title II, state and local governments are required to make specific accommodations to buildings. This applies to both new construction and alteration of older buildings. In very old buildings where such alterations cannot be made, programs must be relocated to facilities that offer appropriate accessibility and accommodations.

Public transportation is also included under Title II of the ADA. All bus and railroad cars must be accessible, and any new bus or train station must be designed to be accessible for persons who have disabilities. In the event that public transportation cannot be made accessible, other types of transportation must be provided. Modes of transportation that are covered include buses, commuter transit, subways, and intercity rail systems. Housing is not covered under the ADA unless it is a housing project that receives federal or state funds. Federal and state organizations are required to comply with the ADA.

Title III: Architectural Barriers

Title III of the ADA is the portion of the law that most directly impacts young children with developmental delays and is discussed in detail later in this

entry. Under this provision, all places that service the public, including restaurants, theaters, schools, medical facilities, and child care facilities, must be made accessible to persons with disabilities. That means that whether the building is new construction or has been in use for many years, barriers must be removed. For example, if a building has multiple stories, an elevator or lift must be constructed. Restroom facilities must provide a wheelchair-accessible bathroom, and hotels must maintain rooms that are designed for persons with disabilities. This also applies to places such as libraries, museums, and parks. Many state and national parks have gone a step further and now provide wheelchair-accessible playgrounds that include special swings that accommodate wheelchairs.

Title IV: Telecommunications

Title IV covers telephone and television access for people with hearing and speech disabilities. The law mandates that telephone companies establish a specialized relay service that operates 24 hours a day, 7 days a week. This relay service must enable people with hearing and speech disabilities who use special equipment to communicate with each other using a communications assistant. This equipment is called a TTY or a TTD. TTD stands for text telephone for the deaf. While these two terms are used interchangeably, the more accepted term is TTY which stands for text telephone. Title IV also requires closed captioning of public service announcements that are federally funded.

Title V: Miscellaneous Provisions

According to Title V of the ADA, individual states and Congress are covered by the ADA. In addition, it provides for repayment of legal fees for successful proceedings related to the ADA and establishes a system for technical assistance. The Civil Rights Division of the U.S. Department of Justice offers education and technical assistance through a variety of ways designed to encourage voluntary compliance with the ADA. Activities it provides include direct technical assistance and education to the public through the ADA website

and the ADA information line, developing and disseminating technical assistance materials to the public, and undertaking outreach projects.

Additionally, Title V includes a provision prohibiting threats or retaliation against people with disabilities or those attempting to aid people with disabilities in asserting their rights under the ADA. This means that in most states, even though the Eleventh Amendment has been interpreted as barring individuals from suing state agencies in federal court, state agencies can be sued to make buildings and workplaces accessible to those with disabilities. The law also protects persons with disabilities who are successful in a lawsuit related to ADA from being harassed or threatened in any manner by the parties being sued. It also allows judges to use their own discretion with respect to reimbursement of attorney fees as part of a settlement in a successful lawsuit.

Amendments

On September 25, 2008, amendments to the ADA were signed. These amendments detail more clearly who is covered by the civil rights protections of the ADA. They also broaden the definition of “disability” to include impairments that substantially limit a major life activity. Additionally, the amendments state that when deciding who qualifies as disabled, one cannot take into account assistive devices, accommodations, medical therapies, and supplies. Finally, the amendments also address periodic events or disabilities that may go into remission but that can still significantly limit a major life activity, like epilepsy and post-traumatic stress disorder (PTSD).

Americans with Disabilities Act and Child Development Centers

Almost all child care centers, regardless of their size or number of employees, must comply with the ADA. Title II (equal access) and Title III (architectural modifications) of the ADA have the most impact on child care centers. Even small, home-based centers that may not be required to follow some state laws are required to comply with Title III. Child care services provided by government

agencies, such as Head Start, summer programs, and after-school programs, must comply with Title II of the ADA. Both titles apply to how the center interacts with and provides services to children, parents, and guardians.

Child care centers that are affiliated with and managed by religious entities such as churches, mosques, or synagogues do not have to meet the provisions of the ADA. However, this does not apply to private child care centers that are operating on the premises of a religious organization. In other words, if a child care program is on the grounds of a religious organization but not operated by the religious organization, Title II and Title III apply to the child care program but not to the religious organization. For example, if a private child care program is using the facilities of a church, pays rent to the church, and has no other connection to the church, the program has to comply with the ADA.

The ADA requires that child care providers not discriminate against persons with disabilities on the basis of disability; they must by law provide children and parents with disabilities with an equal opportunity to participate in the child care center’s programs and services. In addition, child care centers cannot exclude children with disabilities from their programs unless their presence would pose a direct threat to the health or safety of others or require a fundamental alteration of the program. Examples include the following:

- Centers have to make reasonable modifications to their policies and practices to include children, parents, and guardians with disabilities into their programs unless doing so would constitute a fundamental alteration to the program.
- Centers must provide appropriate auxiliary aids and services needed for effective communication with children or adults with disabilities, when doing so would not constitute an undue financial burden.
- Centers must make their facilities accessible to persons with disabilities. Existing facilities are subject to the readily achievable standard for barrier removal, while newly constructed facilities and any altered portions of existing facilities must be fully accessible.

Directors of child care centers cannot just assume that a child's disabilities are too severe for the child to be enrolled in the center's program. In order to deny admission, an individualized assessment by qualified personnel must be completed, and a determination must be made that the program in question cannot meet the particular needs of the child without fundamentally altering its program. In conducting this assessment, the evaluator must not react to preconceptions, generalizations, or stereotypes about what children with disabilities can or cannot do, or how much assistance they may require. Instead, the caregiver should talk to the parents or guardians and any other professionals (such as educators or health care professionals) who work with the child in other settings. Providers are often surprised at how easy it is to include children with disabilities in their programs.

There are a few other exceptions to the ADA. Child care centers that are currently enrolling children are not required to accept children who would pose a direct threat to other children or whose presence or necessary care would fundamentally alter the nature of the child care program. If an insurance company charges higher rates to a center serving children with disabilities, that is not considered a fundamental alteration of the program. Instead the extra cost should be treated as overhead and divided equally among all paying customers. However, if the center has a waiting list, Title II does not require providers to move children with disabilities to the top of the list.

On the other hand, a center may not reject a child because the child requires individualized instruction. If a child needs extra help and attention due to a disability and can be included without fundamentally altering a child care program, the child must be accepted. For instance, if parents enroll a child with autism spectrum disorder who requires a personal assistant, and that assistant will be provided at no cost to the child care center (usually by the parents or through a government program), the child cannot be excluded from the program. Any modifications necessary to include such a child must be made if they are reasonable.

This is not to suggest that all children with autism require a personal assistant in order to be successful in a child development center. To make this determination, an individualized assessment is required. However, the ADA generally does not require centers to hire additional staff or provide assistance to a particular child with a disability.

Other exceptions to Title III include a child with behavior issues who poses a serious threat to others. A serious threat is defined as a significant risk of serious harm to the health and safety of others, including children and adults. The determination that a child poses a threat may not be based on generalizations or stereotypes about the effects of a particular disability; it must be based on an individualized assessment that considers the particular activity and the actual strengths and weaknesses of the child.

To find out whether a child has a medical condition that poses a significant health threat to others, child care providers may ask all applicants whether a child has any diseases that are communicable through the normal types of incidental contact expected to occur in child care settings. Providers may also inquire about specific conditions, such as active infectious tuberculosis, that in fact pose a direct threat. Centers cannot exclude a child solely because he or she has human immunodeficiency virus (HIV) or acquired immunodeficiency syndrome (AIDS). There has been significant research that indicates that HIV, the virus that causes AIDS, cannot be easily transmitted during the type of personal interactions indicative of child care centers. Children with HIV or AIDS generally can participate in all aspects of a child care program. Universal precautions, such as wearing latex gloves, should be implemented whenever caregivers come into contact with blood or bodily fluids, such as when they are cleansing and bandaging playground wounds or when changing diapers.

Centers that provide personal services such as diapering or toileting assistance for young children must reasonably modify their policies and provide diapering services for older children with disabilities who require it. Generally speaking, centers that diaper infants should diaper older children with

disabilities as long as they do not have to leave other children unattended to do so.

A determination must be made whether it is a reasonable modification to provide diapering for an older child who needs diapering because of a disability when the center does not normally provide diapering for other children. Before making that decision the following should be considered: (a) whether other typically developing children need occasional toileting help when, for example, they have accidents; (b) whether providing toileting assistance or diapering on a regular basis would require a child care provider to leave other children unattended; and (c) whether the center would have to purchase diapering tables or other equipment to offer such services to the child. However, if a parent or personal assistant (not funded by the child care center) is available to do the diapering, then the center cannot exclude the child with disabilities.

Other issues covered by the ADA include the following:

Pets. Even if a program does not allow pets, it is required to allow a child with a service animal to bring that animal to class with him or her.

Medication. In some circumstances, it may be necessary to give medication to a child with a disability in order to make a program accessible to that child. Although some state laws may differ, as long as reasonable care is used in following written instructions from the doctor and parent or guardian about administering medication, centers should not be held liable for any resulting problems. Providers, parents, and guardians are urged to consult professionals in their state whenever liability questions arise.

Allergies. Children cannot be excluded based on diagnosed allergies. Such allergies might include severe reactions to bee stings or certain foods. A center needs to be prepared to take appropriate steps in the event of an allergic reaction, such as administering a medicine called epinephrine that will be provided in advance by the child's parents or guardians.

Diabetes. Children with diabetes can usually be enrolled in a child care program without fundamentally altering the program. Providers should obtain written authorization from the child's parents or guardians and physician, and follow their directions for simple diabetes-related care. In most instances, they will authorize the provider to monitor the child's blood sugar (blood glucose) levels before lunch and whenever the child appears to be having certain easy-to-recognize symptoms of a low blood sugar incident. The child's parents or guardians are responsible for providing all appropriate testing equipment, training, and any special food necessary for the child.

Prosthetic Devices. Some children with mobility impairments may need assistance in taking off and putting on leg or foot braces during the course of a day. As long as doing so would not be so time consuming that other children would have to be left unattended, or so complicated that it can only be done by licensed health care professionals, it would be a reasonable modification to provide such assistance.

Even if there are no children with disabilities currently enrolled in a center, that center has an obligation to remove barriers to access for people with disabilities. Existing privately run child care centers must remove any architectural barriers that limit the participation of children with disabilities (or parents, guardians, or prospective customers with disabilities) if removing the barriers is easily accomplished and can be carried out without much difficulty or expense. Installing offset hinges to widen a door opening, installing grab bars in toilet stalls, or rearranging tables, chairs, and other furniture are all examples of barrier removal that might be undertaken to allow a child in a wheelchair to participate in a child care program. Centers run by government agencies must ensure that their programs are accessible unless making changes imposes an undue burden; these changes will sometimes include changes to the facilities.

Newly constructed, privately run child care centers (designed and constructed for first occupancy after January 26, 1993) must be completely

accessible to and usable by individuals with disabilities. This means that they must be built in strict compliance with the ADA Standards for Accessible Design. New centers run by government agencies must meet either the ADA standards or the Uniform Federal Accessibility Standards.

According to information provided by the U.S. Department of Justice (Civil Rights Division), to assist businesses in complying with the ADA, Section 44 of the Internal Revenue Service (IRS) Code allows a tax credit for small businesses, and Section 190 of the IRS Code allows a tax deduction for all businesses. The tax credit is available to businesses that have total revenues of \$1,000,000 or less in the previous tax year or 30 or fewer full-time employees. This credit can cover 50% of the eligible access expenditures in a year up to \$10,250 (maximum credit of \$5,000). The tax credit can be used to offset the cost of complying with the ADA, including, but not limited to, undertaking barrier removal and alterations to improve accessibility, providing sign language interpreters, and purchasing certain adaptive equipment.

Three precedent setting cases helped clarify the ADA guidelines in regard to child care facilities.

Diapering. A complaint brought to the Disability Rights Section of the Civil Rights Division of the Department of Justice on behalf of a child cited that a child care facility did not meet the guidelines of ADA. As a result, the Sunshine Child Center in Gillett, Wisconsin, agreed to (a) provide diapering services to the child requiring more frequent diapering than his typically developing peers, (b) provide assistance with prosthetic devices as needed, (c) enroll the child based on chronological rather than developmental age, (d) remove all physical barriers, and (e) design and construct its new facility to be accessible to all children with disabilities.

Diabetes. In 1996, the Department of Justice entered into a settlement agreement with KinderCare Learning Centers, which at the time was the largest chain of child care centers in the country, to provide appropriate care for children with diabetes. This care included providing finger-prick blood glucose tests to a child when needed. In 1997, La Petite

Academy—the second-largest chain at the time—agreed to follow the same procedures.

Allergies. La Petite Academy, in an agreement with the Justice Department signed in 1997, agreed to keep epinephrine on hand to administer to children who have severe and possibly life-threatening allergic reactions to foods or bee stings and to make alterations to some of its programs so that children with cerebral palsy can participate.

The Department of Justice operates an ADA information line where information specialists are available to answer general and technical questions about the law, including how it relates to services and programs provided by child care centers. It also provides a 24-hour automated service for ordering ADA materials and an automated fax-back system that delivers technical assistance materials to fax machines or modems.

Clarissa Willis

See also Accessibility; Accommodations and Adaptations; Accommodations for Assessment; Bias; Identification of Special Needs; Special Needs

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Websites

- ADA Information Line: <http://www.ada.gov/infoline.htm>
- Commonly Asked Questions About Childcare Centers and the Americans with Disability Act: <http://www.ada.gov/childqanda.htm>

Facts About the Americans with Disabilities Act: <http://www.eeoc.gov/facts/fs-ada.html>
 Introduction to the ADA: http://www.ada.gov/ada_intro.htm

ANTI-BIAS EDUCATION, COMPONENTS OF

Anti-bias education is a developmentally appropriate, culturally responsive and social justice approach developed for early childhood programs. Although anti-bias education includes children's curriculum, it is not in and of itself a curriculum. Rather, similarly to developmentally appropriate practice, anti-bias is a lens for assessing and modifying the entire children's program: program policies and approaches, staff relationships, partnerships with families, environment, classroom management, and children's curriculum. In each of these arenas, anti-bias thinking includes how the full program supports children and families' social identities and all forms of human diversity; addresses issues of inequity and bias; and empowers children and the adults who care for them to create an equitable, respectful program.

As stated in *Anti-Bias Education for Young Children and Ourselves*, published by the National Association for the Education of Young Children, an anti-bias perspective considers the following:

Administration. Do the school's formal and informal policies name and respect the range of families, cultures, and abilities within the community? (For example, Are letters home addressed to "Dear Parents," which implies two parents only, or to "Dear Families," which includes single parents, grandparent-led families, etc.?)

Staff. Does the program have a diverse staff in terms of gender, racial identity, culture, and so forth? Does staffing reflect or contradict the dominant culture patterns of White people in charge and people of color in secondary roles? Does staff development include exploration of social identities and covert and overt bias?

Families. Are all families made visible in the learning environment and in all program documents? Does staff consult families regarding their values, identities, needs, and hopes for their children? Is the family an active participant in the program's planning and self-assessment?

Classroom Management. Do classroom expectations of behavior avoid stereotypes regarding gender, culture, and racial identities? Do forms of behavior management support children's identities, sense of self, and sense of belonging? Are family members seen as resources to understand (rather than as causes of) their children's behavior and responses?

Environment. Are all children, families, and staff equally and accurately visible in toys, books, wall decorations, photographs, and other materials? Are further aspects of diversity also introduced?

Curriculum. Does the curriculum support a balance of teacher planning and the openness to unexpected "teachable moments" that emerge from the children? Does the curriculum utilize the four core anti-bias goals covering identity, diversity, fairness/unfairness, and action?

Culture, Language, and Fairness

Every child and every family has a culture. So, too, does every early childhood program. The degree to which the program culture honors and incorporates the child's culture lessens the hurtful impact of culture shock upon the child.

A culturally responsive program sets the following goals for all children:

1. Children will feel pride in and will have the language to express their family's cultural identity, traditions, and heritage.
2. Children will use their home culture knowledge in the group setting, as they also learn to thrive in the culture of the school and larger society.
3. Children will continue to develop in their home language, while also learning to be bilingual.

4. Children will demonstrate curiosity, enjoyment, ease, and empathy with cultural differences and similarities.
5. Children will identify disrespectful interactions and learn to interact respectfully regarding cultural differences.

Addressing the topics of culture, language, and fairness requires staff to understand the differences between surface culture (holiday foods and costumes, artifacts, etc.) and deep culture (all the deeply held beliefs, values, and history of a family). It is vital to pay attention to the lived experiences of real families rather than to stereotypes about groups of people. Staff must also have knowledge of bilingual language development and the close, positive link between cognitive growth and use of home language. Empathetic awareness of the particular challenges new immigrant families and children face as they enter early childhood programs is also necessary.

Racial Identity and Fairness

Race is not a biological reality. It is a social construct that continually evolves as the society changes. Every person living in a society with a history of racism has a prescribed racial identity impacting how all people are perceived and treated by the institutions of their society, as well as by other members of the society. This aspect of social identity continues to be one of the most contentious, confusing, and painful aspects of U.S. society. Consequently, confusion and tension are often the rule for early childhood programs addressing (or trying to avoid addressing) racial identity and racist bias.

The goals for children on this topic are the following:

1. Children will have accurate information about and feel comfortable with their physical characteristics linked to racial identity.
2. Children will feel positive but not superior about their racial identities.
3. Children will appreciate their shared human physical characteristics and will have accurate information about and respect for each other's individual physical characteristics.
4. Children will demonstrate appropriate skills for identifying and challenging misinformation and stereotypical ideas about "race."
5. Children will develop nonbiased responses to racial differences and will demonstrate beginning skills for interrupting biased behaviors and for creating a fair classroom environment.

Staff needs to learn to name and understand the impact on them of their own racial identities, as well as their attitudes toward other racial identities. They must listen carefully to how families racially self-identify, what they have and haven't discussed with their children, and what terms they want their child to use. It is helpful for children (and families) to discuss how interesting (and positive) it is that we are all alike in our humanness and yet all different in our physical characteristics. As many racist behaviors are subtle and unconscious, it is particularly important for staff to listen carefully to what families say they or their child experience and to include that information in staff development and planning.

Gender Identity and Fairness

Gender identity includes both gender anatomy (biology) and gender role (social expectations). These are the earliest social identities most children articulate. Many adults are oblivious to the continual instruction children receive about what it means to be a boy or a girl. These messages tend to confuse gender anatomy (e.g., our bodies) with socially proscribed gender behaviors, which many incorrectly treat as innate.

The following goals regarding gender identity and fairness reflect the early childhood principle of fostering all children's fullest range of abilities and skills.

1. Children, regardless of gender, will participate in a wide range of activities necessary for their full cognitive and social-emotional development.
2. Children will demonstrate positive feelings about their gender identity and develop clarity about the relationship between their anatomy and their gender role.
3. Children will talk about and show respect for the great diversity in appearance, emotional expressiveness, behavior, and gender roles for both boys and girls.
4. Children will recognize unfair or untrue messages (including invisibility) about gender roles.
5. Children will practice skills for supporting gender role diversity in their interactions with peers.
2. Children will appreciate that material possessions do not define them or anyone else and that all people are valuable regardless of their material possessions.
3. Children will be aware of the many kinds of work that family members do, paid and unpaid, both in the home and in the wider world.
4. Children will recognize unfair or untrue messages (including invisibility) about children and families based on their economic status.
5. Children will stand up for themselves and others against teasing or rejection based on economic status.

Active, intentional nonsexist curriculum and classroom management are essential for children's healthy development. This includes thoughtful attention to staffing that includes men as key members of the team, without narrow assignment of tasks based on stereotypical gender roles. It also requires thoughtful attention to and negotiation of cultural differences regarding gender roles.

Economic Class and Fairness

Economic class is one of the least recognized, although one of the most impactful, aspects of family life and children's experiences. It also silently separates staff members within children's programs. Class shame or discomfort sets in early. Children, ever sensitive to the unspoken feelings of the adults in their lives, absorb a wide range of assumptions about the value of their families (and therefore themselves) based on tangible (who has new "stuff" and who doesn't) and intangible (which families "fit in" with the teachers) experiences.

The goals for children are the following:

1. Children will feel pride in their family's efforts to care for them and provide a living, regardless of the family's economic conditions.
2. Children will learn and practice language and actions to resist hurtful or biased messages about their own and others' families.

Family Structures and Fairness

Family is central to the life of every child. It is through this earliest relationship that children come to view themselves and find their place in the world. The structures of the family (who its members are) are highly varied, and many children will experience changes in their family structure during different times of their lives. Early childhood programs are one of the first places where children learn whether or not they and their family are acceptable, "normal," or respected.

The goals for children are the following:

1. All children will have language to define their own family from their personal experience and will see their family represented in the learning environment.
2. Children will develop awareness and appreciation of different kinds of families beyond their own as well as the ability to talk comfortably about their own and others' families.
3. Children will develop skills to recognize and question unfair comments or depiction of families, including invisibility, whether from children, media, or adults.
4. Children will learn and practice language and actions to resist hurtful or biased messages about their own and others' families.

Different Abilities and Fairness

All children are in a state of being and becoming at the same time. They are aware of their own limitations, struggles, and desire to accomplish. They view the range of ability as interesting and curious. When adults model for and help children to see others (and their selves) as fully human, complex people, then disabilities become one more aspect of the person, not the definition of who they are.

The goals for children around this topic are listed here:

1. All children will develop autonomy and independence (as they are able), as well as confidence and pride in their competence.
2. All children will learn accurate information, appropriate to their developmental stage, about disabilities and special needs.
3. All children will gain understanding about how their own abilities are the same and different from others.
4. All children will learn to interact knowledgeably, comfortably, and fairly with each other, whatever their abilities.
5. All children will learn how to challenge name-calling and stereotyping with respect to their own or others' abilities and will share ideas about accessibility in order to promote rich interaction and independence.

Staff should clarify with families what terms they use with a child to discuss her or his disabilities and work closely with families on the best ways to support them and their child within the program.

Holidays, Celebrations, and Fairness

Holidays are often highly significant events in the lives of children and families. They may embody deeply held religious beliefs (e.g., Easter, Ramadan, Yom Kippur), highlight historic societal events or people (e.g., Independence Day, Martin Luther King Jr. Day), ritualize important family and life passages (weddings, birthdays, funerals), or mark

the passage of the year for institutions (annual picnic, family potluck, graduations).

Some programs teach *about* holidays, and some celebrate them. Either way, how holidays are presented is one of the key ways children come to understand the degree to which their family is acceptable or marginalized and one of the key ways they come to see “their way” as the one “right way.”

How holidays are handled can trivialize important religious beliefs or present a sociopolitical view that negates the experience of families and their cultural histories. Even when families share the same general religious orientation, there is always a great range in how they express those beliefs and celebrate their doctrines. Conversely, holidays that are invisible in early childhood programs send the message that they don’t belong in the school culture, thus marginalizing families and children.

An anti-bias approach to holidays strives to support children reaching the following goals:

1. Children will see their family’s approach to holidays honored and understood in their early childhood program.
2. Children will become aware of, and be comfortable with, the reality that people happily celebrate the same holiday in different ways or celebrate different holidays entirely.
3. Children will learn that some people do not celebrate religious or national holidays but have other ways of having family celebrations and traditions.
4. Children will recognize misinformation and stereotypes associated with specific holiday traditions.
5. Children will participate in celebrations that honor people’s work for fairness and justice for all people.

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See also Anti-Bias Education Theory; Bias; Cultural Diversity; Ethnic and Racial Identity Development; Family Structure Diversity in the Early Childhood Program

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ANTI-BIAS EDUCATION THEORY

An anti-bias approach puts diversity and equity goals and practice at the center of all aspects of a program's organization and daily life. Children's developing identities and their questions, observations, and ideas about diversity and bias are an integral part of the daily curriculum. The four core learning goals of anti-bias education are designed to foster accurate, positive social identities in children, while either preventing or mitigating the harm caused by institutional and individual misinformation, stereotyping, prejudice, and discrimination. They are meant for children of *all* social identity groups and apply to all the many kinds of human diversity. Each goal interacts with and builds on the others. As stated in *Anti-Bias Education for Young Children and Ourselves*, published by the National Association for the Education of Young Children, the core goals state that each child will do the following:

- Demonstrate self-awareness, confidence, family pride, and positive social (group) identities.
- Express comfort and joy with human diversity, accurate language for human differences, and deep, caring human connections.
- Increasingly recognize unfairness, have language to describe unfairness, and understand that unfairness hurts.
- Demonstrate a sense of empowerment and the skills to act, with others or alone, against prejudice and/or discriminatory actions.

The goals are designed to foster a safe, supportive learning community and to promote healthy social-emotional and cognitive development for all children. As noted in a 2007 report from the National Scientific Council on the Developing Child, "Emotional well-being and social competence provide a strong foundation for emerging cognitive abilities, and together they are the bricks and mortar that comprise the foundation of human development" (NSCDC, p. 8).

At the heart of anti-bias work is a vision of the world in which every child's particular abilities and gifts are able to flourish. In this vision, all children and families have a sense of belonging and experience the affirmation of their identities and cultural ways of being. They all have access to and participate in the education they need to become successful, contributing members of their society. Children and adults know how to respectfully and easily live, learn, and work together in diverse and inclusive environments. All families have the resources they need to fully nurture their children and live in safe, peaceful, healthy, comfortable housing and neighborhoods.

However, too many children do not yet have the necessary opportunities to become all they could be. They live in a world where some people have far more than they need and many do not have enough, and which is not yet a place where all children are able to be safe and secure in their many identities. Consequently, children need tools to navigate the complex issues of identity, diversity, prejudice, and power in their daily lives so that they may learn, thrive, and succeed. Rita Tenorio, an experienced early childhood educator and grade school principal, put it this way:

Racism and other biases are part of our society and part of what children have to learn to deal with, to become savvy about. They have to be ready to take what is their right to have: respect, decent jobs, and a decent education. What we are about in education is preparing children for the future—giving them what they need to be successful. We need to give children a critical perspective

and appropriate tools. Those they will need no matter what they become in life. (Derman-Sparks & Edwards, 2010, p. 3)

Children's Formation of Identity and Attitudes

Anti-bias education is grounded in the body of research about how children construct their identities and attitudes and how social bias and inequity impact that development. (A summary of this research can be found in the 2004 book *Teaching and Learning in a Diverse World*, by Patricia Ramsey.) From infancy on, children distinguish and are curious about all forms of differences among people. In general, by 2 or 3 years old, they verbally demonstrate awareness and wonder about the range of human characteristics, including those related to race, gender, language, and obvious physical disabilities. By 4 or 5 years old, children have already formed the foundation for several of their own social group identities. They have a number of ideas about many aspects of human diversity—ideas that may be unknown or quite surprising to adults. They also are absorbing and acting on misinformation, bias, and unease about various aspects of diversity. Moreover, 4- and 5-year-olds may express discomfort over, or even fear of, specific kinds of differences.

William Cross puts forward the concept of social group identities in addition to personal identity that are central to the anti-bias approach. Social identities, rooted in their families, connect individuals to larger groups beyond their family. They comprise characteristics such as people's racial and ethnic identity, gender, culture, religion, language, economic class, family structure, sexual orientation, and abilities, *as these characteristics are defined by the society in which people live*. Everyone has multiple social group identities, which play a significant role in how individuals are viewed and treated by others. Social group membership also significantly affects access to and treatment from societal institutions, such as education, health, and the legal system.

Kenneth Clark advised us in his pioneering work about young children's racial identity and attitudes that socially prevailing ideas about the various aspects of human diversity affect children's formation of their social group identities and attitudes as much as, or sometimes even more than, direct contact with other individuals. Socially prevailing ideas come to young children from many sources in addition to their families. These include, but are not limited to, the media, advertisements, books, toys (e.g., images on puzzles, card and board games), greeting cards (e.g., Native Americans on Thanksgiving cards), and the visibility or invisibility of diverse people in the community.

The content of socially prevailing ideas about various social group identities reflects the institutional dynamics of all the "isms" (racism, sexism, etc.). As children absorb these ideas, they develop some degree of internalized *oppression* and internalized *privilege*. *Internalized oppression* is about coming to believe hurtful, inaccurate beliefs about oneself and one's groups. These ideas, as Carol Day suggests, can generate anxiety, self-consciousness, shame, disconnection, embarrassment, and fear, resulting in negative perceptions of self as learner, reader, writer, and speaker. *Internalized privilege* is about acquiring a set of beliefs about oneself and one's group that leads people to believe they are entitled to the good things of life regardless of the cost to others. It defines self as "normal" and others as strange, exotic, and "less than." These ideas function as social blinders toward those not in the privileged groups, justifying unfair treatment and access.

While social identities are externally imposed by the beliefs and actions of the society at large, they are also internally constructed by the child's experiences, emotional supports, and cognitive thinking capacities. This is where trusted adults' interventions become central to the child's healthy identity development and his or her ability to navigate in a still inequitable world. How an individual learns to feel personally about his or her social identities may stand in opposition to the societal realities of advantage and disadvantage connected to him or her. For example, social discrimination

and negative messages about being “working class” do not necessarily stop people from being personally proud of their family background. Despite racism, children of color can be supported to feel proud and capable.

Children's Programs

Effective anti-bias education happens when all four anti-bias education goals are part of an early childhood care and education program. *Goal 1* is the starting point for all children. A strong sense of both individual and group identity is the foundation for success in school and in life. *Goal 2* is about teaching children how they are both different from and the same as other children. These are never “either/or” realities because all people are simultaneously the same and different from one another and having language for both aspects is essential to respectful contact. *Goal 3* fosters children's ability to think critically. Children cannot construct a strong self-concept or develop respect for others if they do not know how to identify and resist hurtful, stereotypical, and inaccurate messages or actions directed toward themselves or others. Being able to think critically and skillfully about the world is also a crucial skill for school success and increasingly sophisticated human interactions.

Goal 4 is about helping every child to learn and practice a variety of ways to act when they experience biased behaviors or when they see other children targeted with unfairness. An anti-bias approach considers biased behaviors among children, such as teasing, rejection, and exclusion based on some aspect of a child's identity, as a form of aggressive behavior, however unintended. If a child is the target of prejudice or discrimination, he or she needs tools to resist and to know that he or she has worth. A child speaking up for another child reinforces his or her cognitive capacities for empathy and ability to interact with people of all backgrounds. Helping children learn effective ways to take action broadens their understanding of “unfairness” and “fairness” and building a foundation for becoming a useful citizen of a democratic society.

Educational Principles

The following principles inform the pedagogy that implements the four anti-bias goals.

Children learn prejudice from prejudice—not from learning about human diversity. A common, and incorrect, opinion held by many Americans—especially White Americans—is that noticing and talking with children about diversity and inequity lead to prejudice. Instead, they believe that ignoring and pretending not to see diversity create a nonprejudiced, “color-blind” society. This is simply not true, as the research about the formation of social group identity and attitudes shows. Ignoring this aspect of young children's development does not lead to nonprejudice but rather leaves children alone to figure out and deal with complex issues that deeply affect their social-emotional growth.

The four anti-bias education goals are for everyone and everyone benefits. All children deserve to be visible and equally included in daily classroom activities. Social inequalities and biases undermine healthy development in *all* children in one way or another. However, the specific tasks connected to the goals will vary depending on a child's cultural background, various social identities, and life experiences. For example, children who are members of social and economic groups advantaged by society need to develop positive individual and social group identities but without believing that they are superior to people from other social group backgrounds. Children who are members of social and economic groups disadvantaged by society need to develop positive self and social identities in the face of messages that undermine who they are.

Anti-bias education activities pay attention to the realities of children's lives and their developmental needs. A one-size-fits-all approach does not work. It is necessary for teachers to individualize learning opportunities for children's healthy development of their individual and social identities as well as their attitudes toward and interactions with people different from themselves. Each child, and each group of children, presents different needs and

understandings that require multiple approaches to anti-bias work.

Anti-bias curriculum is a balance of child-initiated and teacher-initiated activities. Children's questions, comments, and behaviors spark teachable moments, as well as long-term projects. They are one vital source of anti-bias curriculum. So, too, are teacher-initiated activities, which enable children to further explore and grow their ideas on a wide range of topics. A balance between child-initiated and teacher-initiated activities throughout the school year is as vital in anti-bias education as in any other part of the early childhood curriculum.

Anti-bias education rests on strong relationships, regular connection, and collaboration between families, staff, and program directors. Families must feel accepted, respected, and part of the program's community to engage actively with anti-bias issues. Involving families and practicing collaboration calls for an inclusive definition of families and multiple, versatile strategies. It also requires that directors and teachers strengthen their knowledge and skills for building partnerships with the families.

Anti-Bias Theory Applied to the Educator's Journey

Good teachers are always in a state of becoming. Becoming an anti-bias educator, however, requires additional levels of personal and professional commitment. As one experienced anti-bias educator and school principal explains,

This work is as much about changing your own perspective as a teacher as it is about the activities you do in the classroom. If you're not willing to make a commitment to the four anti-bias education goals yourself, the rest is not useful. (Derman-Sparks & Edwards, 2010, p. 20)

The goals for the adult journey parallel the goals for children and specify that educators will:

- Increase their awareness and understanding of their own social identity in its many facets

(gender, race, ethnicity, economic class, family structure, sexual orientation, abilities, or disabilities) and their own cultural contexts, both childhood and current.

- Examine what they have learned about differences, value, and what they enjoy or fear across lines of human diversity.
- Identify how they have been advantaged or disadvantaged by the "isms" (e.g., racism, sexism, ethnocentrism, classism, ableism, and heterosexism) and the stereotypes or prejudices they have absorbed about themselves and others.
- Explore their ideas, feelings, and experiences of social justice activism, and open up dialogue with colleagues and families about all these goals.

Learning and practicing ways to implement the four core goals with specific groups of children and families is a developmental process. Most people experience several phases as they deal with the various issues of anti-bias education and are often simultaneously at different places in their growth in relation to the various areas of social identity. For example, an individual may be farther on the anti-bias journey concerning gender and sexism than in comprehension of racism. People embarking on their first steps on the anti-bias journey are faced with looking critically at their own social identities, experiences, and attitudes about themselves and "others" and their understanding of societal inequalities. They grapple with the principle that everyone has a culture and try to identify the characteristics of their own cultures. They move beyond the assumption that there is one right way to care for children.

As individuals take on anti-bias self-reflection work, they may show signs of emotional and intellectual disequilibrium. Feelings such as discomfort, anger, or guilt may arise, as people uncover what they previously did not know or understand. They may doubt all they have learned in their professional training and need to sort out what to keep, modify, or change altogether. In some cases, an individual may respond to his or her disequilibrium by wanting to go back to denial: "I'm all for diversity, but aren't we talking too much about it?" or "Children are still basically children and we are

making too big a fuss about diversity.” They also may respond with relief, even joy, to have words to describe what they experienced and never articulated—and feel profoundly validated to have a context in which to put what they thought was only an individual experience.

Committing to an anti-bias approach in all aspects of their work with children and families is another phase of the journey. Teachers seek greater understanding of their social identities’ influence on their teaching practice. They have more conversations with families and incorporate what they learn into their work with the children. They engage in ongoing thinking with their colleagues and respond to pre-prejudiced behaviors in the children with open conversation and curriculum follow-through. *Pre-prejudice* refers to beginning ideas and feelings in very young children that may develop into real prejudice if not countered by their family and/or teachers.

As the journey continues, anti-bias education becomes the *norm* for teachers. They routinely integrate anti-bias values and concepts into all aspects of their work and are more comfortable collaborating with other teachers and families. They demonstrate more openness and skill dealing with cultural differences and conflicts, whether with children’s family members or another teacher. At this point in their anti-bias journey, teachers may wonder how they could have ever worked with children any other way.

Even when an anti-bias approach becomes the norm for a teacher, there are always new paths to explore and knowledge to acquire. Each new family invites new understandings and approaches. Many anti-bias educators also choose to take action with others beyond their own programs. They might join with families to organize around issues in the early childhood program or in the children’s neighborhood (e.g., convincing local stores not to group toys based on gender stereotypes or getting more playgrounds built with accessible equipment). They might join with colleagues through professional organizations and unions on various early childhood issues (e.g., creating and improving required program and learning standards and assessments) or organize

campaigns to get publishers to put out more books about specific groups of children. They may become involved in state and federal government issues related to early childhood education (e.g., increased funding for programs for low-income families).

Anti-bias education matters for children—it *also* matters for the adults who practice it. As one child care director wrote, “This work helps you to be a whole human being. It is a kind of redemption. It opens your eyes and makes you whole” (Derman-Sparks & Edwards, 2010, p. 20). A worldwide community of educators shares the vision toward which anti-bias education strives. As the work of people such as Babette Brown, Anke Van Keulen, Colette Murray, and Mathias Urban shows, the principles of anti-bias education are adapted to the needs of children and families in their specific context. Such adaptations, in turn, continually reshape and deepen anti-bias practice and theory.

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See also Anti-Bias Education, Components of; Bias; Cultural Diversity; Ethnic and Racial Identity Development

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APPROACHES TO EARLY MATHEMATICS INSTRUCTION

How to “best” teach pupils has long been heatedly and unprofitably debated. On one hand, reformers have long been dissatisfied with the limited and even harmful effect of traditional direct instruction. Concerned that traditional direct instruction often fails to promote conceptual understanding, mathematical thinking (e.g., problem-solving and reasoning ability), and a positive disposition toward mathematics (e.g., autonomy, confidence, perseverance), constructivists and other reformers have recommended discovery learning.

Early in the 20th century, the progressive education movement pioneered by John Dewey advocated methods diametrically opposite to traditional methods (e.g., child-centered, instead of teacher-centered, instruction; unguided, rather than guided, instruction). In the 1960s and 1970s, the radical constructivist philosophy of some followers of Jean Piaget reinforced this laissez-faire “free play” or “free school” approach to instruction, which was popular among many early childhood educators and embodied in Summerhill, a school in Great Britain founded by the progressive educator Alexander Sutherland Neill. Louis Alfieri, Patricia Brooks, Naomi Aldrich, and Harriet Tenenbaum (2011) observed that the discovery

approach advocated by constructivists has increasingly replaced direct instruction in recent decades.

On the other hand, proponents of traditional direct instruction have long been skeptical of “reform” efforts. Such proponents considered discovery learning impractical and direct instruction and practice as the most efficient means for achieving skill mastery. Understanding of abstract mathematical concepts was considered beyond the ability of young children, unnecessary for skill learning, or too time consuming and inefficient, especially if discovery learning was involved.

Of particular concern to critics of early reform efforts was that the almost exclusive focus on problem solving and the acquisition of conceptual knowledge effectively shortchanged skill mastery. More recently, Paul A. Kirschner, John Sweller, and Richard E. Clark (2006) argued that discovery/inquiry-based instruction is fundamentally inconsistent with what we know about how human brains learn, because it requires pupils’ working memory to search long-term memory for a strategy or solution-relevant information, and this heavy burden on working memory precludes learning. They concluded that this limitation calls into question the constructivist assumption that children should learn in the same way a discipline such as mathematics has evolved (by constructing knowledge via inquiry and discovery). Richard E. Mayer (2004) observed that, in each decade from 1950 to 1980, research indicated that the popular unguided, problem-based approach—when compared to guided forms of instruction—was unsuccessful; yet constructivists kept adducing discovery approaches under a new name.

Research on Key Issues

The debate about “best practices” has gone on for decades, indeed centuries, because each view contained kernels of truth overlooked by the other camp.

Meaningful Learning That Builds on Child’s Prior (Informal) Knowledge

Reformers make a valid point that meaningful instruction—instruction informed by (existing)

conceptual understanding—is, in the long run, more effective and even more efficient than meaningless direct instruction (efforts to promote factual and procedural knowledge by rote) for two reasons. One is that new knowledge linked to existing understanding is more easily learned and likely to produce retention and thus requires less initial drill and repetitive review. Another reason is that conceptually interconnected knowledge is more likely to transfer—to be applied effectively to learning new content and solving new problems.

Recognition of the importance of promoting meaningful learning has fueled interest in using learning trajectories—efforts to ensure instruction is developmentally appropriate by building step-by-step on what children already know. It has also fueled interest in children’s informal mathematical knowledge (largely verbal knowledge gleaned from everyday experiences)—a key basis for the meaningful learning of formal (school-taught and largely written) mathematics.

Indeed, research indicates that young children are capable of an impressive array of informal knowledge and are far more capable of understanding abstract and important concepts than Piagetian theory suggests. Unfortunately, some children—especially those from low-income families—do not have the opportunity to develop a wealth of informal knowledge, lack the developmental readiness to learn formal mathematics, and fall further and further behind in school.

There is now broad agreement that mathematics instruction should be meaningful—that is, include concepts—and instruction that targets mathematics can profitably begin in the preschool years. For this reason, modern proponents of reform and direct instruction endorse instructional efforts that promote *both* procedural and conceptual knowledge.

Targeted Instruction

Proponents of direct instruction make a valid point that pure child-centered instruction may be inefficient and shortchange the learning of factual and procedural knowledge needed for productive living. Research indicates that unguided discovery

does not benefit learners, whereas guided instruction does. Moreover, explicit instruction of concepts and skills is more likely than implicit instruction to effectively promote learning. Within the field of early childhood education, there is now growing, but by no means unanimous, agreement that free play or exploration is not enough—that even young children can benefit significantly from regular, structured mathematics instruction. This is a view, parenthetically, that would have found favor with founding figures of the field such as Maria Montessori and Friedrich Froebel. Indeed, there is growing recognition that targeted preschool intervention is needed to level the playing field for children living in poverty or otherwise at risk for learning difficulties.

A reflection of this change in view is that Piagetian theory has been replaced as the predominant psychological theory in the field of early childhood education in recent decades by Lev Vygotsky’s (1962) social constructivist theory. Indeed, there is evidence to support more guided forms of early mathematics instruction, even with young children. Consider the following examples:

- Kelly Mix, Julie Moore, and Erin Holcomb (2011) found that 3-year-olds provided toys and a matching container (e.g., Wiffle balls and a muffin tin) outperformed children who were provided with the same toys but without a container on a challenging equivalence (number-matching) task.
- Mix, Catherine Sandhofer, Moore, and Christina Russell (2012) found that only one of four common methods of teaching 3.5-year-olds the cardinality principle (the last number word used in counting a collection indicates the total number of items in the collection) was effective. This was linking counting to a cardinal label, a procedure seldom used by parents.
- Sheri-Lynn Skwarchuk (2009) found that the frequency of complex activities such as comparing quantities or adding and subtracting objects, but not basic activities such as counting or reading and writing numerals, predicted higher mathematical achievement.
- In their review of the research literature, Douglas Frye and colleagues (2013) concluded that

structured pre-K intervention has been successful in promoting numeracy and general mathematics achievement among children at risk for mathematical learning difficulties.

Role of Guided Discovery in Targeted Instruction

The debate about best practices has frequently been heated and unprofitable, because it has often focused on extreme or ill-defined positions. For example, evaluation efforts have often involved examining narrow and extreme forms of discovery learning. Alfieri and colleagues (2011) defined *discovery learning* as not providing learners with the target information . . . but creating the opportunity to “find it independently . . . with only the provided materials” (p. 2). However, the goal of promoting independent insight can be implemented in vastly different ways. Indeed, discovery learning might best be viewed as part of a continuum from completely unguided discovery (in which the child chooses and pursues a task with no guidance from a teacher) to moderately guided discovery (in which the teacher selects a task that is structured to promote students’ independent discovery of a concept or method) to highly guided followed by explicit discovery (in which the teacher selects a task that is structured to promote students’ independent discovery and then summarizes or clarifies their discovery). General conclusions about discovery learning, then, cannot be drawn from research that focuses on a particular form of discovery learning with a particular topic.

The evaluation of discovery learning (or any type of instruction) can be greatly influenced by how well it is implemented. In his 1963 book *Experience and Education*, Dewey distinguished between “educative experiences” (e.g., activities carefully selected to set the stage for learning or to promote particular learning goals) and “miseducative experiences” (activities that are selected, e.g., for their entertainment, rather than pedagogical, value) and concluded progressive education experiments were largely unsuccessful because of

reliance on the latter. Dewey further noted that educative experiences required external factors such as the difficulty of a problem or the content taught to mesh with internal factors such as developmental readiness. Indeed, Jerome Bruner (1961) cautioned that discovery learning can be effective only when pupils are developmentally ready for a constructive activity. Advocates of learning progressions or trajectories emphasize that learning new knowledge meaningfully requires building on developmental prerequisites—foundational concepts and skills.

Proponents of direct instruction now agree that the impact of discovery learning may vary depending on such factors as developmental readiness and the degree of scaffolding. For instance, Kirschner, Sweller, and Clark (2006) noted, although guided instruction is generally more effective than unguided instruction, this advantage recedes “when learners have sufficiently high prior knowledge to provide ‘internal’ guidance” (p. 75). Earlier, David Geary (1996) concluded that radical constructivists failed to distinguish between relatively simple, innately supported knowledge that children can discover and relatively complex knowledge that requires social intervention and, thus, naively proposed discovery learning for learning both. More recently, Geary (2003) allowed that, although unguided discovery learning may be impractical, encouraging students to rediscover concepts and to invent or reinvent procedures *may* prove to be valuable.

In fact, although recent research indicates that unguided discovery learning is typically less effective than guided instruction, it also suggests that guided discovery may have important advantages over direct instruction and is often more effective than other forms of instruction, including direct instruction. One advantage of permitting learners to construct their own knowledge in some way—such as exploring a phenomenon, discovering regularities, and generating their own generalization or solutions—is what Alfieri and colleagues (2011) labeled a “generation effect”: enhanced motivation and understanding and thus learning, retention, and transfer. Research indicates that young children

can use their informal mathematical knowledge to invent their own solution strategies—including those as, or even more, efficient than school-taught strategies and that doing so can provide a foundation for understanding more advanced concepts and procedures. In contrast, direct/explicit instruction on procedures or even procedures plus concepts may undermine a pupil's curiosity or autonomy, forestall a novice's exploration of a domain, inhibit invention of procedures, and produce partial understanding or even confusion—and consequently interfere with transfer. For example, Patrick Shafto (2014) concluded that, with direct instruction (a demonstration by a teacher perceived as knowledgeable), 4- and 5-year-olds assumed nothing more was to be learned, engaged in less subsequent exploration, and learned less than peers who did not see a demonstration from a knowledgeable teacher before exploration.

The “Chinese approach” of combining discovery and direct instruction might achieve the benefits of both approaches and might be more effective than either guided discovery or fully guided instruction alone. For example, Emily Fyfe, Bethany Rittle-Johnson, and Marci DeCaro (2012) found that problem explorations before explicit instruction may better prepare children for explicit instruction and facilitate learning. DeCaro and Rittle-Johnson (2012) found evidence consistent with this hypothesis and concluded that problem exploration facilitated follow-up explicit instruction by helping children “more accurately gauge their competence, attempt a larger variety of strategies, and attend more to problem features” (p. 552).

A series of training experiments by Art Baroody and colleagues (2015, in press) revealed that the degree of guidance needed can vary with difficulty of the content. Whereas minimally guided discovery (unstructured practice, entering a sum on a number list, and feedback about correctness only) was as effective in promoting learning and fluent application of a relatively straightforward and salient add-1 rule as was highly guided discovery, only highly guided discovery was effective in teaching the complex and less salient doubles, use-ten, and subtraction reasoning strategies.

Highly guided instruction may *not* have been needed in the case of the add-1 rule for several reasons. One is that the connection between adding with 1 and number-after relations is relatively obvious. A second is that schoolchildren typically have the prior knowledge needed to notice the connection and implement the add-1 rule. A third is that entering a sum of an add-with-1 combination on a number list may underscore, if only implicitly, the connection between the relatively novel experience of adding 1 and the relatively familiar knowledge of number-after relations.

Research has also revealed several methods that actively involve pupils in learning and that can provide useful scaffolding with a discovery approach. A particularly effective method is to provide children examples *and* nonexamples of a concept so that they can discover for themselves the critical (defining) attributes of the idea. This method can serve to help children reason inductively to construct a wide variety of concepts in early childhood mathematics curricula. For example, young children often initially overgeneralize their use of small-number number words, such as using “three” to refer to any collection with more than two items—that is, synonymously with “many.” Examples and nonexamples of small numbers in everyday situations (e.g., “That’s three cookies, not two cookies”) and playing games (“Can you find examples of three things in the room?”) can help children define precisely the meaning, including the limits, of small-number number words.

Error detection games in which children are asked to help a “confused” adult who sometimes correctly points out a number and sometimes does so incorrectly (e.g., picking up four pencils and saying: “Is this three pencils?”) can serve to model correct and incorrect application of various procedures and concepts and *verbal counting* (“... fourteen, fifteen, sixteen...” = correct example; “... fourteen, fifteen, sixteen...” or “... fourteen, sixteen...” = incorrect examples), *object counting* (counting four items in 1-to-1 fashion = correct example; skipping an item, counting an item and then returning to it later to count it again, or pointing to an item while labeling it with two number

words = incorrect examples), applications of the *cardinality principle* (counting a collection of three correctly and labeling it “three” = correct example; counting a collection of three correctly and labeling it “four” = incorrect example), *numeral reading writing* (writing the numeral 9 correctly and identifying it as “nine” = correct; writing the numeral 6 and identifying it as “six” or writing a “nine” backward or upside down = incorrect example), and the successor principle—each successive number in the counting sequence is exactly one more than its immediate predecessor (“Do I add one to six to make seven?” or “Do I add more than one to six to make eight?” = correct example; “Do I add two to six to make seven?” or “Do I add more than one to six to make seven?” = incorrect examples)—to name a few.

Conclusion

How “best” to teach young children mathematics does not come down to choosing between free play or lecturing children. Providing educative experiences that promote meaningful learning of targeted mathematical knowledge is a complex and challenging task that requires taking into account (assessing) a child’s developmental readiness (place on a learning trajectory) and connecting with the child’s existing knowledge in an engaging and effective manner. Guided discovery learning can play an important, if not a major, role in early childhood mathematics instruction as long as—as Fyfe and colleagues (2012) noted—inquiry or constructive activities are carefully crafted to build on what children know. Well-designed and developmentally appropriate guided approaches might play a useful, if not a leading, role. For example, an educative experience might involve carefully choosing a math game that targets a concept or skill for which a child has already mastered the developmental prerequisites.

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See also Curriculum and Early Childhood Education; Differentiation; Early Number Representation Development; Family Engagement in Curriculum

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standards-setting, curriculum design, and assessment. This entry first provides a brief history and definition of the construct and evidence for specific components. It then summarizes research about the importance of positive approaches to learning in children's development, describes some contemporary and emerging applications, and identifies future issues for approaches-to-learning research, policy, and practice.

History and Definition

The National Education Goals Panel and School Readiness

In the United States, an education summit convened in 1989 by then-President George H. W. Bush identified a set of national education goals. As approved by Congress and signed into law by then-President Bill Clinton in 1994, the first of eight national education goals was “school readiness”: “By the year 2000, all children in America will start school ready to learn.” To flesh out this ambitious target (as yet unmet), a Goal 1 Technical Planning Group on Readiness for School, led by early childhood experts including Barbara Bowman, Sue Bredekamp, Sharon Lynn Kagan, and Lilian Katz, identified five dimensions of early development and learning that research suggested would contribute to later school success. These were (1) physical well-being and motor development, (2) social and emotional development, (3) approaches toward learning, (4) language development, and (5) cognition and general knowledge. The Goal 1 group's definition of the components of school readiness continues to be influential and widely used.

Definitions and Elements of Approaches to Learning

The phrase “approaches toward learning” (often called “approaches to learning”) was coined by the Goal 1 group to emphasize that *how* children learn—the ways that children approach and engage with learning situations—is at least as important as *what* children learn. There is no one agreed-upon definition of approaches to learning: It is a

APPROACHES TO LEARNING

Widely recognized as one of the key dimensions of school readiness, *approaches to learning* is a construct that has been influential in early childhood

sort of umbrella concept that includes a wide array of attitudes, habits, and learning styles. Other phrases that some writers have used as synonyms for approaches to learning are “learning behaviors” and “learning-related skills.”

Head Start’s Child Development and Early Learning Framework includes approaches to learning as one of its six domains. The framework lists three elements of approaches to learning: initiative and curiosity, persistence and attentiveness, and cooperation. Enthusiasm for learning, cognitive flexibility, engagement, focused attention, and motivation to learn are other elements often included under the umbrella of approaches to learning. Children’s executive function skills are considered either as part, or a closely related aspect, of approaches to learning.

To simplify this picture, in *Enthusiastic and Engaged Learners: Approaches to Learning in the Early Childhood Classroom*, Marilou Hyson organized these disparate elements into two main dimensions—an emotional/motivational component (enthusiasm for learning) and an active/behavioral dimension (engagement in learning). In this conceptualization, *enthusiasm* includes the components of interest, pleasure, and motivation to learn. *Engagement* includes the components of attention, persistence, flexibility, and self-regulation.

Evidence for the Importance of Approaches to Learning Components

Although positive approaches to learning are inherently desirable (it is simply good for children to be curious, enjoy learning, and be intrinsically motivated), each component of approaches to learning also contributes to children’s overall development and school success. Examples from just three of these components help make this point.

Motivation to Learn

Children differ in how intrinsically motivated they are. Some children eagerly dive into new learning opportunities without expecting rewards, simply to feel the sense of accomplishment or mastery that comes from hard work. For example,

those children who have higher levels of mastery motivation at age 4 reach higher levels of achievement in language, literacy, and mathematics as they get older—significantly more than one might expect from pretest scores.

Engagement

Researchers assess young children’s engagement primarily by observing them in early childhood settings. Levels of engagement can range from complete disinterest to deep and sustained involvement in a task. Children who are able to become and remain engaged are more competent overall and achieve more in school. Even in kindergarten, children who are more engaged later show greater academic readiness.

Flexibility

When faced with a problem-solving task, such as a challenging puzzle or a new math game, children who try out different ways of dealing with the problem (cognitive flexibility) have higher academic achievement both in kindergarten and first grade. In one study, Head Start children who were more cognitively flexible were later rated by their teachers as being more attentive and persistent, which are aspects of approaches to learning as defined in Head Start’s framework. In turn, these positive approaches to learning predicted children’s academic school readiness.

Influences on Children’s Approaches to Learning

Like other aspects of early development, children’s development of positive, or less positive, approaches to learning is the product of interactions between their inborn characteristics (such as temperament) and influences from their environments. For early childhood educators, the take-home message is that much can be done to create more enthusiastic and engaged young learners. The research evidence is clear: Children are not simply born more, or less, enthusiastic about and engaged in learning. The experiences they have within their family environments, and within the

environments of their early childhood programs, can have a substantial impact.

As with other aspects of development, in the case of approaches to learning, positive relationships with adults, whether parents or teachers, provide a secure foundation for young children to explore, persist, and engage even in frustrating tasks. “Caring communities of learners,” where children are encouraged to help one another and to feel the joy of cooperative effort, help children develop stronger motivation to learn as they get older.

In addition to positive relationships, other aspects of early childhood programs can promote positive approaches to learning. Children who attend high-quality early childhood programs (e.g., programs that help children make choices and become independent but that also provide guidance and scaffolding) are more deeply engaged in learning. The frequent use of small-group learning is another well-tested path toward greater engagement and persistence. Although there is not one best early childhood curriculum, curricula that emphasize the “big ideas”—helping children think about important ideas in developmentally appropriate ways—are likely to produce learners who are more engaged. And motivation is also stimulated when the curriculum frequently integrates learning across subject areas. Additionally, when teachers emphasize what are called “learning goals” (i.e., learning for mastery rather than learning to receive praise or perform well), children have adopted those same goals.

Contemporary Applications of Approaches to Learning in Early Care and Education

The research on these and other components of approaches to learning have stimulated a number of applications in programs, policies, and practices. Again, a few examples illustrate these contemporary trends.

Head Start

As noted earlier, approaches to learning has for some time been one of the key domains in Head Start’s Child Development and Early Learning

Framework. Currently, through Head Start’s online Early Childhood Learning and Knowledge Center (ECLKC), educators are provided with summaries and references to relevant research, detailed descriptions of indicators within each element or component within the approaches to learning domain, and practical strategies for the classroom. Within each domain element, multiple resources are provided, including articles, electronic slide presentations, and “guided practice” resources, intended for teaching teams and for professional development providers.

State Early Learning Guidelines

All 50 states and some territories have standards or “early learning guidelines” (ELGs) describing desired outcomes for preschool-age children. Including the domain of approaches to learning within these guidelines is one way to ensure that the competencies are emphasized in child care and other programs. Many states have followed Head Start’s lead in creating a separate category for approaches to learning. These states often provide programs with resources about approaches to learning, and many offer training specifically on this aspect of the state’s ELGs. However, 16 states do not directly assess this domain in their guidelines. Even when the domain is given its own place in a state’s guidelines, typically there are fewer indicators than for other domains, suggesting that approaches to learning may be considered a less important aspect of school readiness.

Curriculum

As noted earlier in this entry, there is no one curriculum that is best for young children, either in general or in promoting positive approaches to learning. Aligning with Head Start’s domains and with state ELGs, a number of often-used curricula have explicitly included approaches to learning as an area of emphasis. Other curricula reflect this emphasis in other ways, such as by emphasizing child-initiated projects or activities that encourage flexible problem solving, persistence, and intrinsic motivation, rather than relying on external rewards.

One curriculum is notable for its focused attention on developing children's approaches to learning or learning behaviors. Implemented in a number of Head Start programs, the EPIC curriculum (Evidence-Based Program for the Integration of Curricula) integrates intentional teaching of approaches-to-learning skills into literacy and mathematics activities. For example, children's books are used both to develop foundational language and literacy competence and to emphasize themes such as attention control and frustration tolerance. When evaluated in a randomized comparison with another curriculum, both curricula benefited literacy skills, but EPIC showed more positive effects on approaches to learning as well as on mathematics and listening comprehension.

Assessment

If early childhood programs intend to strengthen children's approaches to learning, effective assessment is essential—as long as that assessment is consistent with generally accepted best practices in the design, implementation, and uses of early childhood assessment. A number of widely used assessment systems already include items that tap into children's development of persistence, curiosity, problem-solving behaviors, and other approaches-to-learning-related competencies. There are also measures specifically intended to help classroom teachers assess the amount and level of children's engagement (the Scale for Teachers' Assessment of Routines Engagement [STARE] is an example) and other learning behaviors (the Learning-to-Learn Scales). Still other assessments are used by researchers to study specific aspects of approaches to learning such as self-regulation and cognitive flexibility.

New Directions in Approaches to Learning for Younger and Older Children

Looking toward the future, there are signs that the emphasis on fostering positive approaches to learning, now mostly confined to the preschool years, may be extending both upward and downward.

K–12 Standards and the Common Core

The phrase “approaches to learning” is not one that has been used in K–12 education. However, much of the research on specific components has been conducted with older children; for example, numerous studies have examined elementary and secondary school-age children's motivation to learn and engagement in learning activities, with similar results as studies with preschoolers. Encouragingly, recent surveys of state standards suggest that more states are including social and emotional learning within their expectations for children beyond preschool age, although the domain of approaches to learning is rarely represented as such.

In all, 46 states adopted the standards (including Minnesota, which adopted the English language arts, but not the math, standards).

The adoption of the K–12 Common Core State Standards (CCSS) by, as of early 2015, 43 states and the District of Columbia might at first suggest a neglect of approaches to learning, as the only domains specifically included are language/literacy and mathematics, with science standards recently developed by a separate body. However, a number of the standards themselves, including standards specific to kindergarten and the early grades, seem to require children to use approaches to learning such as persistence and flexibility. (For example, one of the “mathematical practices” for kindergarten is “Make sense of problems and persevere in solving them” [NGA & CCSSO, 2010b, p. 10]; in literacy, a kindergarten expectation is “Ask and answer questions in order to seek help, get information, or clarify something that is not understood” [NGA & CCSSO, 2010a, p. 23].) Furthermore, both in language/literacy and mathematics, the CCSS emphasis on greater depth and focus in students' learning seems to call for more intentional emphasis on strengthening what early childhood educators would think of as approaches to learning. Perhaps in response to these new developments, New Jersey is beginning to develop explicit approaches to learning standards for Grades K–3.

Infant–Toddler Programs

Turning to the other end of the early childhood age range, educators and developmental psychologists increasingly recognize that the foundations of positive approaches to learning are encouraged and established in the first three years of life. Early Head Start has recently addressed this issue, identifying attention, curiosity, information gathering, memory, persistence, and problem solving as critical aspects of approaches to learning for babies and toddlers. A three-part “News You Can Use” online publication offers research evidence and extensive resources for both center- and home-based Early Head Start settings, making close connections with recent research on self-regulation and tying these competencies closely to later school readiness and school success.

Similarly, as states are extending their ELGs downward to infants and toddlers (as of January 2014, according to the Center on Enhancing Early Learning Outcomes, 47 states and the District of Columbia included this age group in their documents), some are beginning to consider how to represent the approaches to learning domain within standards for these very young children, emphasizing its importance but also creating expectations and strategies that are developmentally appropriate. For example, Oklahoma’s infant/toddler guidelines include this standard: “The child will demonstrate interest in learning through persistence and varying degrees of initiative, curiosity, sensory exploration and problem solving” (Oklahoma Department of Human Services, p. 7).

Conclusion

With renewed research attention to what are sometimes—and, in the view of many, erroneously—called the noncognitive aspects of school readiness and early learning, approaches to learning is a domain that is being given increased emphasis in the United States and beyond. In its recent conceptual framework on school readiness, the United Nations Children’s Fund (UNICEF) includes approaches to learning as one of the key dimensions, thereby

encouraging inclusion of this aspect of readiness in early childhood initiatives within both developed and developing countries. In countries where the concept of “readiness” has narrowly targeted literacy and mathematics skills, an approaches-to-learning emphasis can contribute to a more holistic perspective on young children’s needs, including children whose development is in jeopardy because of poverty, war, and other risk factors.

To make an even greater impact, additional research is needed on specific aspects of approaches to learning. For example, more research is needed with culturally and linguistically diverse children, families, and educators, to identify common themes and specific needs. More studies are also needed with younger children, as some of the strongest evidence for motivation and engagement has been limited to research on elementary-age children. Also needed are comprehensive syntheses of research on this domain of readiness, integrating evidence from studies from diverse disciplines, often using diverse terminologies and methods. As a next step, this evidence needs to be put into formats that make it meaningful and accessible to practitioners and policy makers, using evidence-based strategies from the growing field of implementation science. As part of a broader effort to improve professional development, both pre- and in-service teacher education can help early childhood educators implement practices that strengthen and validly assess children’s approaches to learning. This professional development can draw upon, and contribute to, a growing body of knowledge about the complex and essential domain of young children’s approaches to learning.

Marilou Hyson

See also Child Development and Early Childhood Education; Common Core State Standards; Early Childhood Education; Executive Functioning

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ART

Art provides the focus of many activities in an early childhood classroom. Through drawing, painting, modeling, cutting, and assembling, children explore materials and tools while learning to express ideas and emotions. By observing children engaged in art activities and the products they create, adults learn about children's feelings and understandings, their capabilities, and their potential. This entry first discusses how art supports the development of the whole child as well as children's artistic development. It then discusses the components of an early childhood art program, the physical components of the art center, how art relates to subjects across the curriculum, and the assessment of children's artwork.

Art and the Whole Child

Art has traditionally been an important component in early childhood classrooms because it supports the development of the whole child. Young children involved in both making their own art and enjoying the art of others are developing socioemotional, cognitive, and motor abilities.

Art and Socioemotional Development. Deciding what art materials to use and what to create may be the first opportunity many children have to make independent decisions and choices. Making art also builds children's self-esteem by giving them positive avenues for expressing thoughts and emotions. Talking to other children and to adults about their artwork provides practice for children in giving and receiving critiques and compliments. Small group art activities help children practice important social skills like negotiating for and sharing materials and taking turns.

Art and Cognitive Development. Art provides young children with their first experiences in making symbols as they work to represent people and objects. This early use of symbols is very important because it is the foundation for children's later use of words and letters as symbols in formal

writing. Making art also introduces young children to the task of self-evaluation as they review their efforts and identify changes to make in future drawings or paintings.

Art and Motor Development. Young children develop control of large and small muscle groups during art-making activities. Large arm movements used in drawing or painting at an easel or on large paper on the floor build strength and coordination. Smaller movements of wrists, hands, and fingers while cutting with scissors, kneading clay, and drawing or painting on smaller surfaces build fine motor dexterity and precision. Children gain confidence in using tools with repeated practice.

Eye-hand coordination is important for many activities, including formal writing. As children determine how to fit parts to make a whole, what details to include in their art, and where component objects should be placed, they learn to coordinate what they see with the movements of their fingers and hands.

Children's Artistic Development

The earliest experiences children have with art materials are much more closely related to science than to the fine arts. When moving a crayon or a marker across a surface to make marks, children focus primarily on the sensory experience rather than on representing ideas or expressing emotions. They are preoccupied with the textures of the surface, the feel of the tool, and the shapes and colors that appear. Around the ages of 3 to 4 years, children may begin to perceive similarities between marks they have made and real objects. It is at this point that children begin to realize that their art can symbolize people, events, objects, and ideas.

The *mandala*, variations of a circle intersected by lines, is a common element in the art of children of all cultures. Likewise, the *tadpole person*, a circle or oval signifying a head with extended lines to represent arms and legs, is also commonly found in the artwork of most children during their preschool years. Around the age of 5, children begin to draw individual symbols to represent people

and objects. A symbol commonly used for a house, for example, is a square with a triangle on top. Children seem to employ this symbol regardless of the appearance of their own houses or those in their immediate environments. During the early elementary years, children continue to create symbolized drawings. Also during this time, individual children develop a tendency to repeat a specific theme in their drawings. A house with a chimney and a tree beside it and the sun and clouds overhead, a race car with smoke coming out the tailpipe, or a unicorn under a rainbow may be drawn over and over again without deviation as the child works to perfect the symbols in his or her art.

During the middle and later elementary years, children attempt to achieve photographic realism in their art. This fixation on realism can leave children so frustrated that they convince themselves they have no artistic abilities and refuse to participate in art activities.

Just as children's art production follows a predictable pattern, so also does their aesthetic appreciation of art. Preschoolers base their opinions of art on those of their parents or teachers, believing that these authority figures determine what is "good" art and what is "bad" art. Primary grade children form opinions around the subject matter of the art; if the art depicts a subject they view as positive, such as puppies or sunshine, then the art is good. If, however, the subject is not liked by the individual child, as may be the case of art depicting a storm or a frightening animal, the art is viewed negatively. Children in the middle elementary grades focus on realism. The more realistic the art, the better it is.

The Early Childhood Art Program

The overall goals of an art program in an early childhood classroom are that children will be able to identify and understand visual relationships, that children will participate in making art in many forms, that they will learn about art from their own and other cultures, and that they will talk about their own art and the art of others. In support of these goals, there are four components to an early childhood art program: sensory experiences, aesthetic experiences, making art, and appreciating art.

Sensory Experiences. Children do not create art in a vacuum. Their art stems from something they have personally experienced: an event, an emotion, an object, or a person. Children's daily experiences provide them with a depository of things to include in their art. Hands-on experiences through field trips, classroom visitors, and real, authentic objects that children can explore and manipulate are essential in the classroom. They will help children form concepts and will serve as springboards for creating art, writing activities, and oral language.

Aesthetic Experiences. Aesthetics is the study of beauty in color, form, and design. Like adults, children have a need to make sense of and appreciate themselves and their environment. Children pursue beauty with their senses and their bodies. They visually explore art with their eyes and listen for sounds and music with their ears. Three-dimensional artwork is explored through the sense of touch, and children use their bodies to respond to music through movement and dance. Young children learn to appreciate beauty through these rich aesthetic experiences.

Making Art. Experimentation, exploration, discovery, and invention are important elements in art-making activities for children. Although adults have the responsibility for teaching children to use art tools and materials correctly and safely, they should not give explicit instruction about the subjects or ideas children will portray in their artwork. The decision making in which children engage when choosing their own subject, perspective, and style is an important cognitive ability, and making art provides an ideal setting in which children can practice it. Generally, loosely structured planned activities will encourage children's creative expression. The younger the children are, the more these activities should focus on process rather than product.

Appreciating Art. In every place and every time, people have created art. Viewing and discussing works of art in different media and from different cultures and historical eras is essential if children are to develop an understanding of what art is and what artists do. Children come to understand the concepts of art and artist as they talk about their

own art. Adults display the art of others and discuss with children the artist who created the work, the processes used by the artist, and the story the art tells. The focus should be on exposing children to the rich artistic heritage that is theirs, rather than on teaching art history.

The Art Center

The classroom art center is where most children will go to engage in art. In the early childhood classroom, the art center is a workshop where children can experiment and explore without being overly worried about noise and mess. Ideally, the art center is well lit and located on tile floor near a classroom sink. The art center is equipped for a specific age group. Chairs, easels, tables, and shelves are at a height that children can access independently. Shelves and cabinets in the center provide storage for art materials and tools. Bulletin boards and counter tops allow for the display of children's two- and three-dimensional artwork. Children's activities in the art center are suggested by the materials that are provided. Although the number of choices is limited to a few at a time, children are encouraged to use and even mix media and tools. The materials available to children in the art center are safe and open-ended. Although exploration and experimentation are encouraged, the art center has rules and limits for children's behavior and interactions. The number of children working in the center at one time is determined by the available space, but social interaction is an important component of center activity.

The media provided in the art center is varied and all open-ended. Children may draw with crayons, chalk, or markers. They may paint with finger paints, tempera paints, or water colors, working at easels or on tabletops or floors. Scissors and glue sticks may be used for cutting and assembling paper, fabric, or other materials. Clay and other types of dough materials are available for modeling and sculpting. Repeated experiences lead to eventual mastery of the media and allow the children to focus on expression rather than developing skills. However, too much repetition leads to boredom. For this reason, materials are regularly rotated.

Art Across the Curriculum

Although art in itself constitutes a meaningful component of the early childhood curriculum, it also provides reinforcement and extension in other curriculum areas. Integrating art gives children opportunities to think about what they are learning as they create images and artifacts that reflect their experiences. Mathematics and art are natural partners because children quantify as they create, rolling eight legs out of clay for the spiders they are sculpting, and making sure that all five members are represented in the family portrait they are painting. Similarly, shape and size are always considerations as children draw, paint, or sculpt a large oval for a dog's body and a smaller one for his head, or divide a large rectangle into smaller rectangles to represent window panes. Art making also provides numerous opportunities for children to observe and experience the properties of matter so important in science: the thickness of paint at the easel, the intensity of color in the pastels, the resistance in trying to cut cardboard with scissors, the speed of paint drying in the sun. As with the language arts, art provides children opportunities to represent their ideas nonverbally. Children often read artwork, especially their own artwork, in much the same ways that adults read text—drawing a series of ideas or events from the images presented. In the social studies curriculum, drawings and paintings are the only visual representations we have to share with children of many historical events. Art has been a part of every culture throughout history. Appreciating and making art help children to connect with others, now and in times past.

Assessing Children's Artwork

Although art in the early childhood classroom is process-oriented and child-centered, it is still important that teachers carefully observe children as they engage in art. Over time, such observations will give teachers information about children's learning and development. Does an individual child approach new tools and media in the art center with confidence? Or is he reluctant to try

something new? How does the child respond to a compliment or criticism of her artwork? Does the child share the markers and crayons on the art table? Is the child willing to display his artwork, or does he want to take it home? Answers to questions like these can help adults to understand children's socioemotional development while observations of children's use of art tools provide documentation on children's gross and fine motor skills. Talking to children about their artwork provides information about children's symbolic thinking and other aspects of cognitive development.

Art portfolios provide a means of documenting children's artistic progress. Art portfolios should contain representative samples of children's artwork over time and records of children's explanations or descriptions of their efforts. They may contain photographs of art displays in the classroom and video recordings of children at work. Entries should be added regularly and accompanied by information provided by the child. Teachers may ask children to talk about their favorite art media and tools, the processes used to create a particular piece, or why they want to include this artwork in their portfolios. Teachers should review children's art portfolios frequently—not with the goal of comparing children and their work, but to identify and document each child's individual learning and development over time.

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See also Arts Integration; Creativity; Curriculum and Early Childhood Education; Learning Materials

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ARTS INTEGRATION

Arts integration is an approach to curriculum that connects learning in the arts and learning in the other subject areas. At its most basic level, arts integration is used as a pedagogical tool, such as examining paintings to study geometric shapes or using drama to improve reading comprehension. At its highest level, arts integration teaches and assesses the content of both the art form and the other subject areas. It is grounded in the belief that children are active and reflective learners. This entry addresses theory and research that support arts integration, discusses its importance, and notes applications.

Overview

The Arts Education Partnership (AEP) describes the disciplines of dance, drama, music, and visual art as subject areas with unique concepts and skills. All of the arts, known as art forms, connect with learning in other subject areas. The arts have always been central to good early childhood programs. When children sketch parts of a flower or sing songs about the seasons, they are using the arts to enhance learning in another subject area. These connected experiences complement, but do not replace, other subject area instruction.

Arts integration is a systematic, intentional approach to curriculum that uses three primary attributes—form, content, and process.

Form is a way of thinking and expressing. The form, in which a child demonstrates a concept or event through drama, art, movement, or music, is tied closely to content. Engaging with different art

forms and media offers children opportunities to think, reflect, and express themselves using materials chosen for a specific purpose. They also show what they may or may not be able to say through spoken language.

Content includes the knowledge, skills, and concepts in both the arts and other subject areas. Multisensory experiences with content give children many ways to think about it and show what they have learned. Just as developmental domains are interconnected, so, too, are content areas. For example, children learn scientific and engineering concepts when they build with blocks and plan and design structures; they learn concepts in math and art by using a similar vocabulary such as line shape, space, and color; they build basic geography skills by creating murals and maps in social studies; and they use methods of a historian to create dramatic enactments of events.

Process includes the artistic skills of creating, presenting, performing, responding, connecting, and reflecting all that children need to be able to use and do. Children use process skills when analyzing and producing art and gain important knowledge in learning to perceive and think. Engaging in arts integration uses visual, relational, and expressive concepts.

Theory and Research

The work of Elliot Eisner, John Dewey, and Howard Gardner is particularly relevant to arts integration. Eisner asserts that arts integration is a powerful learning tool that provides experiences that enrich children's lives, increase their capacity for thinking, and expand their creative ability. For Eisner, the arts make distinct and important cognitive contributions to a child's development. Dewey's theory of experiential learning suggests that the arts are a way to express meaning and create authentic learning activities while Gardner's theory of multiple intelligences (MI) asserts that humans use many symbol systems to communicate and the arts are one way humans make meaning and communicate different messages.

A body of research also supports arts integration in the following areas:

Twenty-first-century skills, the skills of critical thinking, problem solving, communication, collaboration, and creating that help prepare children for success in today's global world.

Assessment, the focus on what children know, understand, and can do. Asking questions and finding out the answers, making models, and self-assessment are integral to arts integration and demonstrate conceptual knowledge that standardized tests do not assess.

Developmentally appropriate practice, using knowledge of children's development to plan curriculum by taking into account children's needs, interests, and ways of learning so every child can learn.

Neuroscience research on how people learn that informs connections between the arts and other areas of learning.

Standards, as with the voluntary 2014 National Core Arts Standards, which provide expectations of what every PreK–12 child should know and be able to do in the arts by focusing on the artistic process skills of creating, presenting, performing, responding, and connecting. The National Core Arts Standards align with the Common Core State Standards for English language arts and math.

Visual literacy, the ability to understand, use, interpret, and create images to communicate in today's increasingly visual world.

Importance

The arts are essential disciplines of the core curriculum. They strengthen learning in all domains, have the ability to transform the learning environment, and positively impact student learning. They also provide opportunities for children to make good judgments about materials, ideas, and relationships and discover that problems can have more than one solution, instead of merely providing singularly correct answers to questions. Using their minds and

bodies in, with, and through different art forms, children learn to persist with motivating materials, projects, or ideas and increase their memory, attention, spatial, and empathy skills.

Arts integration is a powerful approach to curriculum that makes the arts evident throughout the day. It provides a way to organize experiences around expected outcomes, to learn how and when to teach specific content, and to determine how best to assess children's learning. It gives children access to unique ways of knowing and displaying their knowledge, transforms how others perceive them, reveals abilities in learners previously unrecognized by others, builds community by providing opportunities for collaboration, and increases students' self-awareness and personal skills required for success such as planning, persistence, perseverance, and time management. Arts integration is a universal language that helps children learn through, in, and with the arts by keeping their bodies and minds engaged in learning.

Applications

Arts integration is a powerful learning approach for all children. Each art form is part of every world culture and communicates the people's values, traditions, and principles. In the early childhood classroom, arts integration motivates students to apply their knowledge, to work cooperatively, and to make connections across content areas. Teaching effectively to meet the needs of children of all abilities requires knowledgeable adults. Using the arts to tap into children's senses and learning modalities engages children at their own learning level. The arts hook children's learning through observing, listening, and moving.

For children with specific exceptionalities, the arts can open doors. All art forms can help children make sense of their world. Like reading and mathematics, all art making involves a linear process and completing a work of art requires cognitive organization. Arts integration gives each child a chance to work concretely to create a meaningful product and to strengthen skills during the process.

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See also Art; Creativity; Curriculum and Early Childhood Education; Learning Materials; Movement Education; Music; Theater

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ASHTON-WARNER, SYLVIA

See Close Observation of Children Leads to Powerful Curriculum: Sylvia Ashton-Warner

ASSESSING CHILDREN FOR DISABILITIES

Assessment is the process of collecting information about what young children know and can do for the purposes of decision making. When a parent, medical professional, or teacher suspects that a young child is developing slowly or in ways that would be considered atypical, an assessment is conducted to determine whether a disability is present. This entry discusses considerations related to the assessment of young children to determine the presence of one or more disabilities. These same assessments also often determine eligibility for services, such as early intervention services for children from birth to 3 years old and early childhood

special education services for 3- through 5-year-olds provided under the Individuals with Disabilities Education Act (IDEA).

Defining Disability

Assessing for disability requires having criteria for what constitutes a disability. The concept of disability continues to evolve with the most recent shift being from a medical model to a model that recognizes the social and environmental contexts of disability. Traditional taxonomies that have been used to classify disability, such as the World Health Organization's (WHO's) *International Classification of Diseases* (ICD-10) or the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5), focus on medical conditions and view disability as a characteristic of the child.

The more recent conception of disability includes an emphasis on function rather than impairment and emphasizes that disability involves the interaction of the person with the environment. This new framework sees disability in young children as a developing process with the potential for development to be positively or negatively impacted by features of the child's environment, including whether the child is receiving specialized services. The WHO's *International Classification of Functioning, Disability and Health: Children and Youth Version* (ICF-CY), which reflects this new framework, is a taxonomy for describing health and health-related states and sees health conditions interacting with personal and environmental factors. These factors affect functioning of the body, the person, and how the person functions in social situations. The taxonomy includes impairments, activity limitations, or participation restrictions.

For young children, an especially salient feature of disability is the gap between what the child can do and what the child is expected to do given his or her age. This gap can limit the child's ability to be able to fully participate in various activities of childhood. The participation dimension is important for capturing the extent to which the child is not able to participate with peers and family members in day-to-day activities. This approach to

defining disability differs substantially from a more medically based approach whereby the child is given a diagnosis as the primary descriptor. The ICF-CY is a major advancement in the assessment of disabilities because it provides a common language for describing childhood disability across multiple fields such as medicine, social services, and education, which thus far have approached disability from different perspectives resulting in differing eligibility criteria and challenges to coordination of services across multiple systems.

Screening for Disability

Estimates of the prevalence of disabilities in young children vary, in part because of the difficulties in defining disability. The Census Bureau in 2005 reported that 1.9% of the population of children younger than 3 years of age had a disability, as did 3.8% of the children ages 3 to 5 years. States reported to the U.S. Department of Education that 334,000 children, or 2.8% of the population birth to 3 years of age, had received early intervention services in 2012. For 3- to 5-year-olds receiving early childhood special education, the comparable figures were 750,000 children, or 6.0% of the population.

Assessment can take different forms and serve different purposes depending on the nature of the child's established or suspected disability. Of the preschoolers who received early childhood special education services in 2012, 45% were eligible because of a speech or language delay and another 37% because of developmental delays. Some disabilities, such as impairments of body structure or some health or genetic conditions, are relatively easy to identify. Children with conditions such as Down syndrome or birth defects will be diagnosed as infants by medical personnel. These types of disabilities are relatively rare. Other disabilities—in fact, most disabilities—in young children cannot be detected, or even suspected, by just looking at the child. Over 80% of the children who received early childhood special education services would appear typically developing to a casual observer. All of these children had disabilities that required an assessment to verify the presence of a developmental problem.

Identification of these disabilities involves careful observation and more detailed assessment processes of the child's functioning in multiple domains, such as communication and self-help skills. Ideally, health care providers and staff in programs in the community for young children and their families, such as child care centers and preschools, have implemented developmental screening. The American Academy of Pediatrics recommends that screening tests be administered at the child's 9-, 18-, and 30-month visits to the pediatrician. Developmental and behavioral screening involves the administration of one or more screening tools that are quick assessments in one or more areas of development to determine if the child should be referred for a more in-depth assessment.

Screening also should be conducted regularly in vision and hearing because disabilities in these areas in young children are often easy to miss. Children who do not pass a screening in one or more areas should be referred for further assessment. Without systematic developmental screening in the child's community, someone familiar with the child will need to notice something unusual about the child's development and encourage parents to pursue additional assessment. Developmental screening is strongly advocated because mild delays in areas such as fine motor development or communication skills can be easy to miss unless a significant adult in the child's life is very familiar with what typical development looks like. Developmental screening also is the key to getting young children the help they need as early in life as possible to prevent the occurrence of any additional developmental problems.

Comprehensive Assessment to Identify Delays and Disabilities

Children with suspected vision or hearing problems are referred to the appropriate professional for an examination. Children with suspected delays in one or more areas of development will receive an assessment in that area at a minimum. Ideally, the assessment will include the collection of information

about what the child can and cannot do in multiple areas of development even if a delay is suspected in only one area. Multiple areas would include communication (articulation, expressive and receptive language), motor (fine and gross motor skills), adaptive or self-help skills such as feeding and dressing, and social-emotional development. All areas of development should be assessed because delays in one area of development frequently co-occur with delays in other areas.

This kind of assessment can be administered by a health care practitioner, a psychologist, an early childhood special education teacher, a speech language pathologist, a physical therapist, or other professional skilled in working with young children. Often, professionals from different disciplines will work as a team to evaluate different areas of development and then combine their findings into one comprehensive report. There are various tools that a practitioner can use for this purpose, but a common feature of all these tools is that they produce a score that provides a comparison of the child's developmental level in a domain to how the general population of children the same age perform in this area. For the purposes of identifying a delay, the results of an assessment can be expressed as a standard deviation or as an age equivalent score. An example of an assessment finding would be that the child scored 2 standard deviations below the norm in gross motor skills. A standard deviation is a statistic that conveys distance from an average—in this instance, the average performance of other children the same age. Expressed as an age equivalent, an example of an assessment result would be that the child is 39 months old with the receptive language skills of an 18-month-old.

The assessment of a developmental delay should never be based solely on scores from a single assessment because the child's performance on any given day or with a particular assessor might not be typical of what the child knows and can do. The child's family and other adults who regularly interact with the child, such as a child care provider, are important sources of information on what the child does in everyday routines and activities; information from these sources should be incorporated into the

assessment process and the assessment findings. The assessor needs to get a complete picture of what the child is like in settings familiar to the child to ensure an accurate representation of the child's competencies.

Any formal tool(s) used in the assessment process should be appropriate to the child's unique characteristics, including the child's ability to communicate with the examiner, respond to requests, manipulate objects, or complete other performance demands. Needless to say, the assessment should be administered in the child's home language. The Division for Early Childhood of the Council for Exceptional Children has developed a set of recommended practices for professionals who provide services to young children with disabilities and their families. One set of the recommended practices addresses the assessment of young children with disabilities, and many of the assessment practices apply to assessments administered for the purposes of establishing whether the child is experiencing a delay in development or developing atypically.

All children in the United States from birth to age 5 with delays and disabilities are entitled to special services under IDEA. To be eligible for early intervention services, the child must be younger than 3 years of age and have a delay in development, a diagnosed physical or mental condition that has a high probability of resulting in developmental delay (e.g., blindness), or, if the state opts to serve children who are at risk, a risk condition as defined by the state that may result in delayed development. Children with diagnosed conditions or with a risk condition do not need to be assessed to establish eligibility for services but should be assessed nevertheless so that the professionals who will be working with the child have a good understanding of what the child knows and can do.

Children with suspected delays will receive a comprehensive multi-domain assessment to determine the child's eligibility for services. The criteria that define a delay are established by each state and vary somewhat across the United States. Contrasting examples of state eligibility criteria are Florida, where children must have a delay of 1.5 standard deviations in two or more developmental

areas or 2 standard deviations in one area, and Maryland, which requires a 25% delay in one or more developmental areas or that the child manifest atypical development in one or more developmental areas.

IDEA services for children 3 to 5 years of age have a different set of criteria for program eligibility. To be eligible for early childhood special education, a child must have a disability in 1 of 13 categories: intellectual disability, hearing impairment, speech or language impairment, visual impairment, emotional disturbance, orthopedic impairment, other health impairment, specific learning disability, deaf-blindness, multiple disabilities, autism, traumatic brain injury, or developmental delay. Only a few of these categories require a developmental assessment as the basis for determining eligibility. The use of developmental delay is similar for children younger and older than age 3, but the criteria may not be the same, even within the same state. The different eligibility criteria for early intervention and early childhood special education provide a good example of the need for a more unified and functional approach to defining disability, such as the framework embodied in the WHO's ICF-CY.

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See also Developmental Assessment; Developmental Disabilities; Developmental Screening Instruments; Early Childhood Special Education; Early Intervention; Emotional Disabilities and Assessment; Identification of Special Needs

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ASSESSMENT, LIMITATIONS OF

Assessment is broadly defined as a systematic process for gathering information to make an informed decision. An integral part of early childhood programs, it uses observation, interviews, tests, and other techniques to collect information about children, families, classrooms, and programs. Assessment includes both formal approaches such as standardized tests and more informal processes such as portfolios and conversations with other caregivers. Both approaches are valuable as decision-making tools, but like any tool, they have strengths and limitations. Limitations of assessments are features that reduce proper application and interpretability—in essence, features that impair the ability to use an assessment tool to produce useful, meaningful, and accurate information. Factors to consider when judging the appropriate use of an assessment include the purpose or goal of assessment, the design of the approach, technical and psychometric characteristics, the appropriateness of a given tool

for a particular population, and the conditions of administration.

Because the goal of assessment is to provide information beyond what one could gather without systematic collection, the need to understand how the information can and cannot be accurately interpreted is paramount to the appropriate use of assessments. The focus of this entry is on limitations of standardized approaches because the early childhood field has demonstrated leadership in clarifying appropriate and inappropriate uses of standardized assessments with young children and in early childhood programs through publication of such landmark documents as the National Association for the Education of Young Children's 2003 position statement on curriculum, assessment, and program evaluation.

Purposes of Assessment

Assessments are developed for specific purposes, and these purposes drive their design and appropriate use. Purposes of standardized testing include screening, diagnosis, program evaluation, and accountability. Relative to use, using an assessment designed for one purpose for another carries major risks to accurate interpretation.

Screening

Screening is a brief procedure or test designed to identify children who may need further assessment to identify a developmental delay or health condition. Screening assessments provide basic information about a child's development. A screening may be a first step to know whether a child needs an intervention, but it must be followed up with additional assessment, as it lacks the psychometric rigor to inform diagnoses. An example of a screener is the Ages and Stages Questionnaire (ASQ).

Diagnosis

Some tests are designed to make decisions that will significantly impact the child's life. Decisions such as the diagnosis of a developmental delay will impact a child's life by qualifying the child and the

child's family to receive intervention services or other resources. Because of the stakes or consequences involved in this decision, a test designed for this purpose should have been developed through rigorous testing for reliability and validity. Specifically, recommendations for the reliability of a test used to make decisions about diagnosis or placement should reach levels of .9 on internal consistency reliability. An example of an assessment that meets this level of rigor is the Battelle Developmental Inventory (BDI), which provides a comprehensive assessment of five major developmental domains designed for children birth through age 8.

Program Evaluation

The use of assessment for program evaluation is a third distinct purpose. Relative to program evaluation, concerns about assessment burden on children, potential program cost, and the body of research linking classroom quality to child outcomes has led to a focus on measuring the inputs to healthy child development—that is, the early care environment. Thus, for program evaluation, the early childhood field has developed, and continues to develop, assessments that evaluate the quality of early childhood classrooms. For example, classroom observational tools such as the Early Childhood Environment Rating Scales–Revised (ECERS-R) are widely used to assess the global quality of preschool classrooms as one component to inform program improvement efforts. Data from program evaluations generally serves two purposes—to inform the program and guide improvements or to inform stakeholders who will make decisions about the program's future.

Accountability

In some cases, evaluations hold significant consequences for a program. In essence, this is the definition of accountability assessment—assessments for children or programs that have high-stakes consequences associated with the results. Such is the case with the use of the Classroom Assessment Scoring System (CLASS) Pre-K in Head Start classrooms since the Improving Head

Start for School Readiness Act of 2007 mandated the monitoring reviews of Head Start agencies include a valid and reliable research-based instrument to assess classroom quality and teacher–child interactions. While the 2014 revision of the *Standards for Educational and Psychological Testing* recommends a body of evidence to establish the precision of an instrument, historical recommendations by psychometric experts have provided guidelines. For example, Jum C. Nunnally recommended that measures used for important decisions in applied settings have a coefficient alpha of .9 or higher. The CLASS PreK met this reliability criterion, with an alpha of .9 in one study of 82 classrooms, but in four other studies, the alphas ranged between .79 and .89. This high-stakes use of the CLASS is the first national use evident in the early childhood field. The benefits and unintended consequences of this use remain to be seen.

Measurement Design

Another potential limitation is related to how tests are designed. At an early stage in development, designers develop a test blueprint to focus the measure. As test developers purposely focus on certain areas of child development or early childhood practice, there are always some concepts, skills, or pieces of information that must be left out of the blueprint. Thus, by design, a test only samples the universe of potential items. After creating a blueprint that focuses the measure on specific skills, concepts, or practices, these focus points are further limited by the need to operationalize, or measure with observable or reportable behaviors, the selected skills or concepts. Thus, the items used in a final version of an assessment represent a small sample of many possible items that would be important or meaningful to know about as a parent, teacher, or researcher.

Once the construct is developed through the selection of sample items that are observable or reportable, the items must be used with a diverse group of children. The sample of children used to

develop the measure should be representative of the population with which the measure is intended to be used. For example, if an assessment was developed to measure language development, a normative sample will be developed to compare one child's assessment to other children. If the normative sample was developed with monolingual English speakers, the data will have limited usefulness for understanding the development of language for bilingual English-Spanish speakers.

A final limiting psychometric property that is impacted by design is measurement error. All measures have some level of error. Standard error of measurement (SEM) is a characteristic of the test and is related to the reliability of a measure. SEM can be used to construct a range around a score that explains how much variation exists due to error. Measurement developers may set acceptable levels of measurement error based on the expected use of the instrument. A developer would then continue working on perfecting a set of items that would produce these acceptable levels of error, while protecting overall reliability and validity.

Two resources that provide information on these psychometric properties are the *Buros Mental Measurements Yearbook (MMY)* and *Tests in Print (TIP)*. TIP informs potential users of the purpose, publisher, price, administration time, and other factual information about commercially available assessments. MMY includes independent reviews of specific assessments by professionals with expertise in test construction and psychometrics. In addition to information on reliability, validity, and measurement error, the reviews generally include information about the population with whom the measure has been designed to be used.

Assessment Administration

A variety of potential limitations are related to those who administer an assessment and the conditions of the assessment session. Due to the differing levels of rigor and training needed to interpret assessments, many assessments are not available for general use. Instead, assessments are

given levels of classification, each level requiring increasingly rigorous training or supervision. Assessments that were developed for use in diagnosis decisions are most frequently given a high classification and are only to be used by professionals trained in that specialty.

In addition to training, the administrator of the assessment has duties to the children and adults being assessed. Spending time to build rapport can increase the cooperation and therefore the quality of interactions during an assessment. The timing of assessments may also impact the quality of the assessment. For example, children may demonstrate lowered capability when hungry, ill, or sleepy. As with any work with young children, attunement to cues is necessary. Relative to classroom observations, it is typically best to observe for longer periods of time involving several segments of the day rather than relying on a brief observation period involving just one activity or time span.

When conducting child assessments, the assessor needs to be thoroughly familiar with the test materials and how to present them to young children to ensure optimal child performance. In addition to skillfully administering items to the child, the assessor needs to accurately record responses and score the assessment. Practice and training are required to ensure engaging and accurate assessment administration that elicits a child's optimal performance.

Interpretation of Assessments

The earlier sections describe many potential threats that serve to limit the usefulness of assessments. However, a final limitation is the capacity of people charged with interpreting the results to do so in a knowledgeable and professional manner. This requires several professional competencies addressed earlier, such as knowing the purpose of the assessment, if the specific assessment design and technical properties match the desired purpose and relevant demographic characteristics, if the proper training and supervision were available to ensure proper and accurate administration and scoring, and finally an understanding of what the results mean and how to understand and use them

in the broader context of the child, family, and early childhood program.

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See also Developmental Assessment; Interpreting Assessment Data; Peabody Picture Vocabulary Test; Reliability and Validity in Child Assessment; Standardized Assessment

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ASSESSMENT OF PLAY

This entry discusses the use of play as a method of interpreting children's development. An alternative to standardized testing, play-based assessment is an authentic means of looking at a child's development, strengths, and needs. The entry first addresses why play assessment is needed, then moves into discussion of three different approaches with emphasis on the most comprehensive of the three. The three play-based models discussed include two structured approaches, one a standardized approach and the other a single domain approach, and one nonstructured, transdisciplinary play-based approach. These three models are currently widely used. Other play scales exist, but most are used in research studies.

Need for Play Assessment

With the passage of the Education for All Handicapped Children Act of 1975 and the Individuals with Disabilities Education Act (IDEA) in 1990, the identification and assessment of children with special needs who are younger than 5 became a priority. Building on the approach used with school-age children, a variety of standardized measures were identified or developed to serve this purpose. However, soon many professionals began to have doubts about the effectiveness of this traditional assessment method with younger children.

Young children have developmental characteristics that make administering a standardized test difficult, including a short attention span, shyness with strangers, and lack of motivation. Add to this the characteristics of young children who potentially have special needs and the issue of accurate assessment becomes even more challenging. Lack of language and/or social skills as well as fine motor concerns, repetitive actions, limited interests or unfocused attention all contribute to the potential for inaccurate assessment. Now add in children who come from non-Western cultures, children who speak different languages, children who come from backgrounds where they have not been

exposed to materials found in test kits, and the problems with assessment accuracy are compounded. Take two examples:

Child A is 3 years old. She is withdrawn with strangers, and though her mother says she does talk, she is quiet with the test administrator. She has a short attention span, has difficulty with fine motor control, and misses many items, such as puzzle and block construction, which require fine motor control. The resulting score reflects that Child A is 2 standard deviations below the mean in the cognitive area. In his report the psychologist indicates that this is not a totally accurate representation of the child's skills, but the child's score results in her being labeled with severe developmental delays.

Child B is 4 years old and from a bilingual family that lives in a low-income housing development. The family moved from Argentina to the United States 1 year ago. Child B has just entered preschool for the first time, and his teacher referred him for lack of language and poor social interaction skills. He is highly distractible and does not give the test administrator eye contact. A Spanish version of a standardized test is administered and the child is found to be 1.5 standard deviations below the mean in language. In addition, the tester feels that some of the child's characteristics might mean that he is on the autism spectrum, so he is referred for further testing for autism.

Both of these scenarios point to the reasons that alternative methods of assessment are needed. In the case of Child A, her shy temperament, lack of attention, and fine motor difficulties result in a low cognitive score. Many of the "cognitive" items on the test require fine motor or language production. Missing items lowers her cognitive score. In the case of Child B, the test used was translated from English into Spanish but was not standardized on children from Argentina. Add to this the cultural aspect of not looking at adults of authority, the child's lack of exposure to Western educational materials, and his distractibility, and the

results should be in question. Use of traditional assessment methods with young children increases the possibility of obtaining fragmented, inaccurate, or incomplete results.

Issues such as these have led parents and professionals alike to object to reliance on traditional methods that do not provide an authentic picture of the child's strengths and needs. Given that placement, program planning, and goals and objectives are determined from testing, much is at risk when mistakes are made. As many professionals have noted, standardized assessment procedures should be used with great caution in early education because such tools are inherently less accurate and less predictive when used with young children. In an effort to address the problems with traditional assessment, play-based assessment was developed.

Play-Based Assessment

Authentic assessment requires that the process through which assessment and evaluation information is gathered be obtained by observing the child engaged in real-life activities in relevant contexts. The results obtained from an authentic assessment should also inform real-life intervention approaches. Play-based assessment derives from the effort to create an ecologically based form of authentic assessment. It offers a valid way of addressing the diversity of backgrounds, cultures, and developmental differences found in young children. Play-based assessment is currently used as a means of identifying and diagnosing children who need special services, a process for determining intervention approaches and strategies, and a method for monitoring developmental growth and progress toward specific developmental objectives.

The advantages of play-based assessment are many (see Table 1). Play-based assessment involves children in an activity they already love. Children are inherently motivated to play and practice mastery in a fun way. Play is a universal language. All children, across all cultures play. What they play with and how they play differs, but all play involves movement, communication,

social interaction, and thinking. As such, play provides a holistic window into all areas of development. Play enables observers to see a child's strengths, preferences, and learning style. This information flows naturally into planning appropriate placements, goals, and intervention strategies.

Standardized Play-Based Assessment

One structured play assessment approach is Rebecca Fewell's Play Assessment Scale (PAS). This experimental and observational tool examines the perceptual and conceptual skills the child reveals through play under two different conditions, Condition I (spontaneous play) and Condition II (prompted play). The PAS can be administered in any comfortable setting, allowing for floor play by anyone familiar with the tool who has an in-depth understanding of child play behaviors.

The PAS contains 45 developmentally sequenced items and is designed for children aged 2 to 36 months. It contains eight age ranges and toy sets, so different materials are used for different age levels of children. The examiner selects four sets of toys: two that are appropriate for the child's estimated age, and one below and one above that level. Each child is given about four toy sets, but that number can vary.

Children are first observed in Condition I, spontaneous play. Toys are set on the floor and the child is allowed to play with just a few introductory remarks. The examiner avoids telling the child what to do with the toys. The examiner codes behaviors observed according to a scale. When the child starts repeating play behaviors or is not demonstrating more advanced play behaviors, the examiner moves into Condition II. In this situation, the examiner now tries to prompt the child to engage in higher level play, by inviting, suggesting, commenting, or directing. Notes are made about the child's behaviors and responses.

Only the observations made during the spontaneous play are used for scoring. The number of items credited between the basal and the ceiling

determines the raw score. A conversion chart then yields a "play" age. Information gained from the prompted play is used for discussing emerging skills and qualitative descriptions of successful elicitation approaches.

Advantages of the PAS. One person can administer the instrument in a short period of observation. There is some flexibility in materials selected for the child. It has evidence of validity when compared to other measures.

Disadvantages of the PAS. The tool has a limited age range and developmental focus. Only spontaneous play is scored. Parents are not involved in the process.

Play in Early Childhood Evaluation System

One of the most recent play assessment tools, developed from 1999 to 2005, is the Play in Early Childhood Evaluation System (PIECES) developed by Lisa Kelly-Vance and her colleagues. This cognitive assessment tool was based on the original version of Toni Linder's work, Transdisciplinary Play-Based Assessment (TPBA), and, similarly, is conducted in any setting with appropriate toys and materials. The child plays alone for 30 to 45 minutes without being required to play with any particular toys or materials. Parents and a session facilitator observe and can interact with the child but cannot suggest or direct play. Coding guidelines are presented for one core domain (exploratory/pretend play) with supplemental subscales for problem-solving skills and planning, categorization skills, quantitative skills, drawing skills, and seriation abilities. All play behaviors are coded on the 13-item sequence of exploratory/pretend play, whereas specific types of behaviors are coded on the supplemental domains. The information from the coding procedure is then compared to norms based on typical development to determine play levels and intervention targets.

Advantages of PIECES. Only one assessment administrator is needed and the time required is

Table 1 Comparison of Standardized and Play-Based Assessment

<i>Standardized Testing</i>	<i>Play-Based Assessment</i>
Assessment is an instrument	Assessment is a process
Norm sample based on a specific population	*Adjustments are made for background, culture, and language
Based on a medical, deficit model	Based on a strengths-based ecological model
Assessment information derived primarily from testing of the child	*Assessment information derives from the family, caregivers, and observation across settings
Some children are “untestable”	Every child is “testable”
Parents are not included in the testing procedures	*Parents collaborate in the process and are integral to the assessment
Same materials are used with all children	*Materials used depend on the interests, experience, and needs of the child
Same directions are used with all children, language is standardized	Language used depends on the level and background of the child
Assesses norm-referenced skills	Assesses functional skills, learning style, and underlying processes needed for progress
Adult-directed process	*Child-directed process with adult facilitation
Results are standard scores, percentiles, etc., based on statistics	*Results in developmental levels, range of ability, and cross-disciplinary analysis. Professional judgment is important
Information used for diagnosis and placement	Information used for diagnosis and placement, program planning, goal setting, and intervention strategies
Isolated assessment of discrete domains of “motor,” “language,” “cognition,” “social-emotional”	*Holistic observation of domains and transdisciplinary integration of data
Domain tests administered by separate professionals	Observations made as a team, including parents, so all observe the same behaviors
Does not include siblings or peers	*Includes siblings and/or peers
Goals derived from items missed	Goals derived from team analysis of skills and processes
Results validated by another standardized test	Results validated by family, caregivers
Often stressful for child and family	Less stressful as the process is fun and the family is part of the process

Note: Items with asterisk (*) indicate this is characteristic of Transdisciplinary Play-Based Assessment, second edition (TPBA2), not all play assessments.

less than 1 hour. The coding system is well researched and has high validity and reliability. The results lead to functional intervention targets.

Disadvantages of PIECES. The focus is only on cognitive development. The narrow focus may mask other concerns. No facilitation is used. This may reduce play of some children with special needs.

Transdisciplinary Play-Based Assessment, Second Edition

TPBA2 by Linder is the most comprehensive play assessment approach for children developmentally functioning from 1 month to 6 years of age. The process is transdisciplinary, meaning that it integrates information from a multidisciplinary team of professionals into a holistic picture of the child's functioning. TPBA was originally published in 1990 and revised in 1993. A total revision and update was completed and TPBA2 was published in 2008. TPBA2 makes the play-based assessment process a convergent process, including information from families, caregivers, and teachers. It includes seven subdomains for each of the domains (cognitive, emotional-social, sensorimotor, and communication, including a functional vision screening and simple hearing screening). Table 2 illustrates the complexity and comprehensiveness of the areas of development that can be observed in play.

A key component of the TPBA2 process is obtaining preliminary functional and historic information from parents and other caregivers. This information makes the assessment convergent,

bringing together insights and observations from key players in the child's life into the assessment process. The information is also used to help plan the actual play session. The TPBA2 takes place in any setting that is conducive to play. Material may be found in the home or provided in a playroom. Augmentative devices and toys are used when necessary to enable the child to engage in interaction and play. Members of the team from various disciplines each observe his or her area of expertise, but some also serve in an additional capacity in the TPBA process. One team member is designated as a play facilitator to play with the child, following the child's lead and scaffolding (modeling the activity) when needed to see the best the child can do. Another team member is designated as the parent/family facilitator, whose role is to obtain more information about how the child's current behaviors compare to what is typically seen, provide information about what the play behaviors mean to them, elicit the parents' interpretation of language and behaviors, and involve the parent in playing with the child. It is also recommended that the play session be videotaped for later review.

TPBA2 includes qualitative guidelines or questions for professionals to answer when observing

Table 2 Domains and Subcategories of TPBA2

<i>Sensorimotor Development</i>	<i>Emotional-Social Development</i>	<i>Communication Development</i>	<i>Cognitive Development</i>
Functions underlying movement	Emotional expression	Language comprehension	Attention
Gross motor activity	Emotional style/adaptability	Language production	Memory
Arm and hand use	Regulation of emotions and arousal states	Pragmatics	Problem solving
Motor planning and coordination	Behavioral regulation	Articulation/phonology	Social cognition
Modulation of sensation	Sense of self	Voice and fluency	Complexity of play
Sensorimotor contributions to self care	Emotional themes of play	Oral mechanism	Conceptual knowledge (math and science)
Vision	Social interactions	Hearing	Literacy

the child. The questions relate to *how* the child performs and how much and what type of support the child needs across domains. Each domain also has age tables that enable professionals to determine the range of a child's skills (basal to ceiling) and the age level where most of the child's skills cluster. Using the cluster age, the child's percentage of delay is determined. This is often a score that is used for eligibility. The process also includes Transdisciplinary Play-Based Intervention, second edition (TPBI2), also developed by Linder in collaboration with colleagues from different disciplines. TPBI takes information from the assessment findings and directly relates these to specific intervention suggestions and strategies for home and school. The process can also be used to measure progress over time.

Advantages of Transdisciplinary Play-Based Assessment. TPBA2 is a comprehensive, holistic process that integrates parents' and professionals' perspectives into functional findings and intervention recommendations. Research findings show high concurrent validity, social validity, and reliability. Play facilitation allows the team to see the best the child can do and determine what supports are needed. TPBA is easily adapted to different cultures.

Disadvantages of Transdisciplinary Play-Based Assessment. A team of at least two members is required, and three or four team members are preferred. The entire assessment process takes 1.5 to 2 hours. The age tables are research-based, not normed on a specific population.

Conclusion

The past 2 decades have seen ever-increasing awareness of the importance of early childhood education and intervention for children from birth to 6 years of age. We now know that both early education and early intervention can have long-term positive impacts on both the children who participate and their families. Consequently, we need to be able to identify children who need

extra supports at the earliest age possible. Traditional assessment measures are inappropriate for the majority of children with special needs, children with diverse cultural and linguistic backgrounds, and children who are at risk because of adverse environmental concerns. Play-based assessment provides an authentic alternative that enables professionals to observe children's holistic development when they are motivated and engaged in something they love to do. The qualitative and quantitative information that is gained translates directly into program planning and intervention strategies. With additional recognition of the benefits of play-based assessment, it is hoped that state and local requirements will adjust to the needs of young children and make room for more authentic approaches to identification of young children with special needs.

Toni Linder

See also Child-Initiated Play; Developmental Assessment; Observational Assessment; Social Play and Cognitive Development

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ASSISTIVE TECHNOLOGY IN EARLY INTERVENTION

Assistive technology (AT) in early intervention is defined as any item that helps increase the independence and functioning of an infant or toddler who has a disability. AT can assist with communication, positioning and mobility, play and interaction, self-help, skills development, and learning. AT is often low tech and low cost, involving simple adaptations such as utensils with built-up handles for ease of holding and manipulation. High-tech AT devices such as wheelchairs, standers, and augmentative communication devices are more sophisticated, specialized, and costly.

AT also includes toys purchased at local stores that are adapted to help children with disabilities play more independently and participate in daily routines. AT may also include any service that assists children and their families select, acquire, and implement appropriate AT for the needs of the infant or toddler.

Scholars such as Sharon Judge and Elizabeth Lahm have argued that AT can increase young children's options and facilitate their physical and social inclusion in various settings. It can provide support for cognitive processing or enhancing memory and recall, and it promotes learning and development by assisting infants and toddlers in more effectively participating in activities and routines in their natural environment. When used thoughtfully with the infant or toddler by practitioners and family, AT can be empowering, increasing early independence and supporting inclusion involving natural participation in play.

Research into the effectiveness of AT for infants and toddlers is still in its infancy. The National Association for the Education of Young Children maintains that continuing research is needed to better understand how infants and toddlers use and learn with AT and to better understand its short- and long-term effectiveness so as to inform policy makers and early intervention providers interested in issues of access and equity for infants and toddlers, parents, and families within what is

known as developmentally appropriate practice (DAP) in early childhood. Enhancing future efforts for AT in early intervention is a team effort, with families being closely involved. When early intervention providers appropriately procure and integrate AT, equity and access are addressed by providing opportunities for all children to participate and learn.

In practice, AT is often used by early intervention practitioners as a distracter. A practitioner may, for example, use the child's motivation to interact with a toy as a way to position him or her longer on his or her stomach or to shift weight from side to side. Sensory and cognitive skills are often targeted using AT during focused skills development. For instance, toys are provided that encourage a child to use both hands to manipulate an object, or "play" is designed to strengthen bilateral hand coordination, which can then be used in higher level play activities. The goal in such early intervention practice is to improve developmental skills that, in turn, will increase the quality and quantity of the play interactions so an infant or toddler with a disability can perform on a par with his or her nondisabled peers.

Many of the skills learned in life begin in infancy, and AT can help infants and toddlers with disabilities learn many of these crucial developmental skills. Communication skills are especially important in infancy and toddlerhood as infants and toddlers learn through interacting with family members and other primary caregivers. Parents may be reluctant to begin using an AT device, believing it may discourage their child from learning crucial skills. Research, however, has shown that using AT devices, especially augmentative communication devices, may encourage a child to increase communication efforts and skills. Moreover, the earlier a child is taught to use an AT device, the more easily the child will learn to accept and use it.

Intervention focused on facilitating playfulness emphasizes the quality of a child's play with the child guiding play to incorporate motor, sensory, language, creative, and cognitive skills in a holistic manner without focusing on any specific goal or

skills. AT addresses barriers that exist by affording the infant or toddler the opportunity to initiate and sustain playful activity at the appropriate developmental stages of play.

As AT becomes more readily available for early intervention, further research is needed on what infants and toddlers are able to do with AT and how AT can be integrated successfully into the natural environment to promote the skills development of infants and toddlers with disabilities not only through therapeutic interventions but also during natural, child-initiated, and guided play-based experiences. Early intervention providers and parents must take time to select and evaluate AT and observe the infant or toddler as he or she uses the devices to become familiar with the various options and make appropriate adaptations.

A survey of early intervention providers by M. Jeanne Wilcox, Amy Guimond, Philippa H. Campbell, and Heather Weintraub Moore published in 2006 identified areas of AT practices in early intervention that should be strengthened. Of great concern is that only 18% of providers viewed themselves as well trained or as having a lot of knowledge about AT for infants and toddlers with disabilities. Several tensions and barriers have been found in the literature that may account for limited AT use in early intervention—namely, the dichotomy between therapy and play, family and provider beliefs about using AT, funding issues, the availability of AT devices, a lack of providers who are trained in the use of AT devices, and attitudinal barriers (e.g., negative images or a fear of technology). Scarce use of AT may also be attributed to the relative newness of AT with infants and toddlers and a lack of research examining the selection, use, and efficacy with this population of children. Research-based evidence about what constitutes quality AT for play-based learning is needed to guide policy and inform practice and to ensure that AT is used in effective, supportive, engaging, and appropriate ways in infant and toddler play-based programs in natural settings. Irrespective of severity of disability, all children have some capacity to engage in play and AT can assist children in a broad range of play activities.

All too often natural play for children with disabilities may be diminished or absent, yet play is important for all children, including those with a cognitive delay who may be thought of as being disinterested in play. Early intervention providers and parents need to develop their awareness of how to nurture the development of a child with a disability through play with AT because it can make play accessible for infants and toddlers with disabilities.

AT plays a crucial role in increasing accessibility and opportunities for developing all aspects of early play. The environment for play, for example, the lighting, noise levels, and modifications of space and accessibility, affect play. A supportive pillow such as the Boppy, for example, may allow a young child to be more upright; an infant with very low muscle tone may be unable to reach out efficiently to interact with his or her environment. There are also other positioning items that allow the child to move, bounce, and/or turn in place. Everyday low-tech AT materials such as cardboard boxes, car seat head positioners, towels, pillows, and cylinders can be used to position children.

Children need to move to explore their environments within play. AT devices are available that encourage and support children to move. These are commercial walkers, rocking and riding toys, climbing and sliding equipment, and well-designed swings. Switches, adapted battery-operated toys, and interfaces make it possible for children to turn a toy on and off with a movement of a body part against a switch. Single switch use can also be applied to motorized scooters that give the child the opportunity to move through space independently at a young age. Adapted computerized peripherals and appropriate software for children can be adapted. A single switch that reduces control to a single key or the use of a touch window may be the most appropriate input devices for this population. Some communication devices can act as a switch interface to include a message heard when the toy is activated. This strategy is frequently used to enhance opportunities for pretend play for young children with disabilities.

A simple box easel can allow a toddler to participate in creative activities such as painting and drawing by moving paper to a vertical surface. A toddler may find a book more engaging when it is clipped to an easel rather than lying flat on the table. A carpet square can become a ply mat for a child. Cars and blocks can be attached to the carpet so they won't roll away when played with. The use of a well-placed switch (a device attached to a toy that allows the child to interact in play by pressing) makes the toy accessible to a child who may not otherwise be able to make the toy move or make noise. Susan Mistrett, Shelly Lane, and Amy Goetz, in a 3-year federally supported project that worked to promote play in infants and toddlers with disabilities through the use of low-tech AT conducted in 2000, found that to build interest in electronic toys, toddlers can begin with highly reactive toys that provide immediate and intense reaction when touched. In summary, early intervention services that include AT must be provided in natural environments to the extent appropriate for the individual infant and toddler. This would include the child's home, child care setting, or other community settings with nondisabled infants and toddlers. As a part of the decision-making process around AT, the team should discuss where AT devices and services will best meet the child's skills needs developmentally and at the same time create crucial opportunities for the development of play with interactions for infants and toddlers with disabilities in natural settings.

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See also Accessibility; Accommodations and Adaptations; Early Intervention; Guided Play; Play and Early Childhood Education

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AT-RISK FAMILIES

Risk is considered any factor that leads to a negative consequence. Indeed, there are many factors that place children and families at risk for poor outcomes, such as adverse health conditions, or violence within romantic and parent-child relationships. Such consequences can negatively impact a child's emotional, cognitive, social, and physical development as he or she transitions into adolescence and adulthood. This entry examines contemporary theory and research on a number of individual, family, and neighborhood stressors that place families at risk for a host of negative outcomes. These stressors include but are not limited to behavioral problems, substance abuse, depression, harsh parenting, life stress, economic distress, and mental illness across the life span. This entry also explores the term *resilience*, which describes processes or mechanisms that help children overcome significant adversity in their lives.

Theory

Many theories have been formulated to address factors that place families at risk for negative social and behavioral outcomes. For example, systems theory maintains that family influences are multidirectional where children influence their caretakers and caretakers influence their children. Sociocultural theories stress that norms within a particular peer group or culture influence behavior. It may also be the case that a way a person behaves is due to his or her genetic makeup, rather than solely being the result of the environment. However, one prevailing paradigm to explain risk derives from Urie Bronfenbrenner's bioecological model, which states that behavior should be reviewed within the context of nested environmental systems. Two other common explanations for risk include Rand Conger's family stress model (FSM), and social learning theory.

The bioecological model postulates that children and families function within a series of layered environments, each having an effect on development. The microsystem component of the model

contains factors within a child's immediate home environment that induce or inhibit development. The mesosystem is the relations among the various environments such as the association between the child's home and school settings, and the exosystem includes the larger community in which the child lives. Finally, the macrosystem layer consists of society ideologies and broad cultural values such as general views about children and parents in society. This also includes views about aggression and violence within a particular culture.

The FSM suggests that economic hardship leads to felt economic pressures for parents such as unmet material needs (e.g., inadequate food or clothing), the inability to make ends meet, and having to cut back on expenses (e.g., health insurance). This pressure places parents at risk for emotional distress such as depression, anger, and anxiety. These emotional problems lead to increased conflict between parents. These disruptions in the couple relationship spill over into interactions with children and lead to harsh and inconsistent parenting. These outcomes, in turn, threaten the social and emotional well-being of children.

The social learning theory posits that children learn through observing the interactions and behaviors of others. Thus, children who observe conflict between parents or experience harsh parenting within the family of origin model that same behavior to their own family members in adulthood. For example, children learn to behave harshly toward a romantic partner by watching their parents interact with each other in that manner. Likewise, children who are abused at the hands of their parents often grow up to abuse their own children as adults. This socialization perspective is often referred to as the intergenerational transmission of aggression or violence.

Risk Factors

Researchers have established numerous factors that place families at risk for negative health and behavioral outcomes. Furthermore, it has been found that a combination of risk factors, rather than any single factor, place children and families at an increased risk for adversity. Various individual-, family-, and

neighborhood-level risk factors influence child development and positive family functioning.

Individual Factors

Both child and parental characteristics have been linked to negative outcomes. For children, one common risk factor for child maltreatment is age: Younger children are more likely than older children to be maltreated by their caretakers. This can be best explained by stress associated with the constant care required for parenting young children. Other child risk factors for outcomes such as abuse include irritable or difficult temperamental dispositions, behavioral problems, and intellectual or physical disabilities. For children with disabilities, the stress associated with caring for their needs, economic stress from health care expenses, and the strain on marital relationships from factors such as disagreements about care increase the likelihood for abuse.

There is also research to suggest that child behavior may influence the type of parenting a child receives. In other words, a child who displays problem behaviors or has a difficult temperament may elicit harsh punishment from parents. For example, children who are high in externalizing behavior intensify poor parental monitoring or discipline and may also become harsh parents themselves. It should be noted that these child factors do not suggest that children are to blame for poor outcomes. These qualities simply put the child at greater risk for consequences such as abuse.

In terms of parental risk factors, substance use, including drug and alcohol use, and symptoms of mental health problems, such as depression or anxiety, have been associated with negative outcomes such as child maltreatment. For these parents, compromised judgment and poor decision making may be causes for abuse. Other risk factors include personality types such as negative emotionality and anti-social behaviors including hostility, delinquency, externalizing behaviors, and conduct problems. In addition, parents who have unrealistic expectations for their children or who view their children more negatively may be at higher risk for abusing them. Because it is impossible for children

to live up to such high expectations, parents may be even more sensitive to their child's negative behavior and less likely to view their behavior as being positive. Moreover, they may view their child as being more intentional in their negative behavior and more difficult to control.

Many of the previously mentioned risk factors have also been shown to be consequences for children as they develop through the teen and adult years. For example, predictors such as substance use and depression are potential outcomes for children. Poor self-concept, eating disorders and weight management problems, and school problems are also examples of potential consequences of growing up in a risky family environment.

Family Factors

Harsh discipline or psychologically abusive parenting is one of the most consistent risk factors for a host of negative consequences for children. In the short term, harsh or hostile parenting may be related to physical and psychological injuries, as well as higher levels of problem behavior during childhood. As children grow to adulthood, harsh parenting received in the family of origin has been linked to obesity, substance use, risky sexual behavior, mental health issues, delinquency, being victims of intimate partner violence, and maltreatment of their own child. Indeed, as adults, children with a history of harsh parenting tend to emulate this type of parenting because these early experiences may exacerbate tendencies toward anti-social or aggressive conduct in general. That is, hostile parenting may be related to aggressive behavior during childhood. In turn, higher levels of aggressive behavior during childhood may be linked to higher levels of hostile parenting years later during interactions with their own children. Thus, there is suggestive evidence that an important mechanism linking harsh parenting across two generations is risk for emotional and behavioral problems by children raised in a hostile family environment. These markers of maladjustment appear to carry forward to disrupt parenting behavior in the second generation.

Evidence also suggests that parenting practices influence later romantic relationships, perhaps

even more so than marital or sibling interactions within the family of origin. Through parent socialization practices, children learn communication strategies, problem-solving skills, and conflict-resolution strategies. When parents are hostile or harsh in their interactions with children, it may make it difficult for the child to establish healthy and satisfactory romantic relationships as an adult. For example, children who experience angry and criticizing parents tend to display similar behavior toward their own romantic partner throughout adulthood. Similarly, distant parent-child relationships during childhood may be linked with a child's romantic relationship quality in young adulthood that is characterized by jealousy and emotional extremes. Taken together, low-quality parent-child relationships are an important catalyst of low-warmth and high-conflict romantic relationships in adulthood.

Another common risk factor for adversity is the intergenerational transmission of partner violence or exposure to intimate partner violence in the family of origin. In particular, it is common for children to both witness intimate partner violence and be victims of parental abuse at the same time. Indeed, when children are exposed to intimate partner violence, there is an increased likelihood that during adulthood they will be involved in violent romantic relationships and will mistreat their own children. For example, boys who witness domestic violence are at greater risk for growing up to beat their own partners. Competencies that promote a child's successful and positive adult romantic relationship may be traced to family experiences during childhood through the social learning hypothesis, which suggests that the behavioral interactional styles that were frequently modeled and reinforced in the family of origin (i.e., marital relationships) will be imitated by the adult children in their later close relationships.

In addition to harsh parenting practices or witnessing violence within parental relationships, exposure to stress has been explored as a predictor of adverse consequences such as family violence. For example, life stressors, work, and parenting stress have all been associated with marital conflict

and higher rates of family malfunction. In addition, families that are characterized as being chaotic or having higher rates of conflict put children at risk for poor developmental outcomes.

Finally, families who are socially isolated, experience loneliness, or have fewer resources for social support are at greater risk for violence than families who have access to such resources. For example, parents who have fewer friends or minimal contact with friends or family members may be more likely to maltreat their children than those who are more socially active.

Economic Risk Factors

In addition to the intergenerational transmission of aggression and violence within relationships, there is accumulating evidence that economic adversity may persist across generations. One possible explanation is that parents transmit skills, knowledge, and character traits that help determine their child's potential work earnings as an adult. It may also be that economic hardship as experienced in the family of origin diminishes a child's educational attainment as well as parental investments in college. Therefore, there is reason to believe that children who grew up in an economically disadvantaged household may face their own financial hardships as adults.

Economic deprivation, whether the result of chronic poverty or a sudden economic downturn, can negatively impact children and their families through emotional problems, marital distress, problems in parenting, and child maladjustment. For example, parents who can't afford basic needs may have higher levels of depressive symptoms, which can lead to problems in parenting that, in turn, are related to decreases in child positive behavior and increases in problematic behavior. Indeed, children growing up under conditions of economic hardship are at increased risk for emotional and behavioral problems, a decrease in social competence, lower cognitive abilities, and elevated physiological markers of stress. Living under economic strain may also affect a child's personality in that he or she may be more likely to

be high on traits such as negative emotionality and low conscientiousness. Likewise, exposure to poverty during childhood places youth at increased risk for dropping out of school, engaging in risk-taking behavior, and entering parenthood at an early age.

In addition to economic hardship, families who suffer from lower levels of completed education, unemployment, or low income may put children at higher risk for negative developmental consequences. For example, less educated parents are more likely to maltreat their children than more highly educated parents. Low parental education, parental unemployment, limited income, and financial strain have all been related to poor health outcomes in children, such as obesity, as well as teen dating violence and other externalizing or delinquent behaviors.

Demographic Family Factors

Several family demographic factors have been linked to negative family outcomes. In terms of marital or relationship status, single-parent families and families with one nonbiological parent place children at greater risk for maltreatment. Indeed, the rate of child abuse for children raised in single-parent households is double that for those raised in two-parent families. Similarly, incest rates are higher in stepfamilies given the lack of a biological relationship between parent and child. Age and gender may also be risk factors in that children born to mothers who begin childbearing at a young age experience a variety of negative outcomes. For example, teenage female parents seem to be a greater risk for utilizing harsh parenting practices compared with older mothers. Reasons include their developmental age, lack of knowledge about appropriate discipline, and the inability to handle stress. Teenage parents are also more likely to have other risk factors for abuse, such as being single, unemployed, and less likely to have graduated from high school. Children born to teenage parents may be at increased risk for externalizing problems, drug use, and entering early parenthood themselves.

Neighborhood Factors

During the past decade, research has focused more attention on neighborhood-level risk factors. Indeed, work has shown that children exposed to neighborhood violence are more likely to perpetrate later violence than children who are not raised in such an environment. This may be due to poverty that is found within dangerous neighborhoods or the view that violence is an acceptable response to conflict. Similarly, perceived low neighborhood quality has been positively associated with later problem behaviors. For example, neighborhoods that are mainly comprised of single-parent families, are high in deterioration, or have inadequate resources place families at greater risk than those neighborhoods considered to be of higher quality. Also, neighborhood collective efficacy and connectedness have been established as a potential protective factor for children and families.

Resilience to Family Risk

Not all children who grow up in a negative environment become aggressive or hostile in their relationships with others. Having access to social support or necessary resources may help to protect those families who may be considered at risk. For example, children who were abused within the family of origin may be less likely to abuse their own child if they have access to services such as parenting classes or counseling. It may also be that positive personal characteristics or having positive relationships help to buffer the negative impact of a risky home environment. That is, children who have a positive relationship with a non-maltreating caretaker, or have support from teachers or peers, may be protected from the negative consequences of maltreatment.

Moreover, stable, nurturing, and supportive behaviors of a spouse or cohabiting romantic partner may strengthen co-parent relationships and help break the intergenerational cycle of harsh parenting. It has been found that romantic partners who are warm and engage in positive communication patterns appear to disrupt continuity in harsh and abusive parenting. Thus, as appropriate,

preventive interventions designed to reduce risk for child maltreatment should include a focus on spousal or partner behaviors in their educational or treatment programs.

In terms of economic adversity, there is considerable variation in how children and families respond to economic hardship. That is, although there may be an association between economic adversity and negative family functioning, some families are able to adapt and function well in spite of experiencing economic hardship. Couple interaction and parenting behaviors may play a critical role in mediating the effects of economic disadvantage on child outcomes. Parents who are able to maintain effective parenting skills, even in the face of adversity, might have children who are more resilient.

Maintaining a sense of positivity might be one personal characteristic that can help facilitate resilience to economic hardship. Positivity is the tendency to view life and the future with confidence and a positive outlook. It includes having a high level of self-esteem, life satisfaction, and optimism about various life and situational experiences. These elements of positivity may contribute to important individual- and family-related outcomes. For example, having a high self-esteem influences important life outcomes such as relationship and job satisfaction, depression, and physical health. In general, those who display a positive outlook, or a sense of optimism and mastery, seem to have better life outcomes.

In sum, it may be that a combination of individual and family resilience processes lead to positive adaptation to risk. If children and parents have personal resources to cope in the face of adversity, they may possess greater ability to maintain skills that lead to positive outcomes for children. Likewise, positive communication patterns between couples as well as the effects of positive parental disposition may have lasting positive impacts for children and families at risk. Thus, interpersonal processes may serve as an important target of intervention and prevention efforts designed to promote positive child development over time.

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See also Bioecological Theory; Family Health; Parenting Effects on Child Development; Stress and Resilience in Families; Violence in Families

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ATTACHMENT AND STRESS

For healthy development to unfold, a child needs supportive, reliable relationships with adults. *Attachment theory*, originating in the work of John Bowlby, examines how early social interactions contribute to a child's later functioning. This theoretical model has generated important research exploring the dynamics and developmental significance of a child's relationship with primary caregivers. More recently, attachment theory has been extended to stress research in order to elucidate how attachment figures regulate the activity of stress-responsive hormones and protect

the developing brain and body from their potentially deleterious effects. This entry first defines attachment theory, then discusses the role of attachment relationships in regulating stress. It then discusses how researchers study attachment and stress, some key research questions, recent research results, and gaps remaining in the understanding of attachment and stress.

Attachment theory provides a conceptual framework for stress research to understand (a) how positive social relationships can serve as stress buffers for children, and (b) how attachment figures shape the development of a child's stress response systems. Through attachment theory we can gain insight on how interactions with trusted, sensitive caregivers establish a foundation for lifelong physical and mental health.

Stress is a normal part of life, and some amount is necessary for healthy development. Through early experiences of positive, manageable stress, children can learn important coping skills. However, when nurturing relationships are impaired by situations such as parental substance abuse or severe depression, or children are in situations when attachment figures are a source of threat because of abuse, children are not able to manage stress by themselves. Under these conditions, stress hormones and neurochemicals may be frequently or chronically activated resulting in toxic stress impacts that enhance the risk of poor physical and mental health.

Research has begun to identify the mechanisms by which exposure to severe early life stress (ELS) can have deleterious effects on health and development. Although there have been significant advances in understanding the physiological mediators of the stress response, less is known about their neurocognitive correlates. Attachment theory has provided a fruitful framework for investigating social, cognitive, and physiological factors of the stress response, allowing us to move toward a more complete understanding of how stress influences the development of the brain, behavior, and health. This knowledge will help identify intervention and prevention targets, with broad implications for policy.

The Stress-Regulating Role of Attachment Relationships

Research shows that a child's attachment relationships with adults shape the development of the stress response system and thereby have a profound effect on later health outcomes. Stress can be defined as the biological or behavioral responses to experiences that challenge an individual's physical or psychological welfare. The stress response integrates several biological systems including the *sympathetic nervous system*, the *neurotransmitter systems*, the *immune system*, and the *hypothalamic-pituitary adrenocortical (HPA) axis*.

The HPA axis, which maintains an organism's capacity to respond to acute and chronic stressors, is a primary focus of child development research. Stressors activate the HPA axis, which results in the production of stress hormones called glucocorticoids, including *cortisol*. ELS can disrupt brain development through the repeated and prolonged exposure to elevated cortisol and/or to *corticotropin-releasing hormone (CRH)*, a related component of the stress response.

This overexposure to stress response hormones and neurochemicals may induce a hypersensitization of neural circuits that process threat information. Additionally, ELS can compromise the functioning of the nervous and immune systems. Chronic activation of the HPA axis can contribute to *glucocorticoid resistance*, which causes immune cells to become "deaf" to a cortisol signal that would otherwise have anti-inflammatory effects. This leads in turn to increases in both cortisol and inflammation that over time are associated with risk for physical and mental health disorders. Overall, the neurobiological consequences of ELS promote short- and long-term problems that undermine healthy development.

Originally, attachment theory was focused on how early social relationships influenced the development of a child's affective regulation. Today, researchers use a neurobiological perspective to extend insights from attachment theory toward an understanding of how early social relationships influence the development of a child's stress regulation system. Two core concepts guide attachment

theory research: (1) The caregiver-child relationship functions to help regulate the child following threatening events, and (2) early relationships shape a child's *internal working model* of the world, which subsequently operates throughout the life span to influence how an individual perceives and copes with threat.

Attachment theory predicts that infants who experience responsive, sensitive parenting are more likely to be *securely attached*. Infants with this attachment style feel secure in the presence of their caregiver and maintain proximity while using this adult as a "safe base" from which to explore. When the parent is low in sensitivity or inconsistently responsive, children are more likely to exhibit an insecure attachment style. *Insecurely attached* children fail to develop feelings of security from the attachment figure. As a result, these infants behave more independently or ambivalently toward their caregiver, both physically and emotionally. They do not orient to this adult while exploring, and they explore less overall. Maltreated children's attachment patterns are often disordered and disorganized and, in extreme cases, meet classification for reactive attachment disorder.

One problem for researchers studying attachment and stress in children is the complex and multifaceted nature of these topics, in addition to the dynamic and bidirectional influences they may have on each other. For example, there are multiple factors researchers must consider when examining the effects of stress on development; these factors include (a) the type(s), chronicity, and severity of stressors a child faces; (b) the effects of developmental timing of exposure; and (c) individual biological differences in reactivity. In the context of examining psychological mechanisms of coping with stress associated with attachment, researchers also must consider (a) individual differences in variations in the primary caregiver-child relationship, (b) continuity and change in relationship attachment quality across development, (c) the influence of developmental status on how attachment relationship effects manifest in behavior, and (d) the role of inherited genetic factors in shaping attachments.

Research Context

Technology

To study young children, physiological measures of stress must be noninvasive. Cortisol can be measured in small samples of saliva, which makes study of the HPA axis highly tractable. Saliva can also yield an indirect measure of activity of the sympathetic nervous system (alpha-amylase). Otherwise, the sympathetic or fight-flight aspect of stress biology requires electrophysiology and measures of heart rate or galvanic skin responses. Although noninvasive, these procedures are subject to movement artifact, which may mean the child needs to sit quietly. There is growing interest in studying oxytocin, a hormone involved in promoting proximity and contact with relationship partners. Whether it can be measured accurately in saliva is controversial; cautious researchers assess it in urine. With regard to assessing attachment quality, two methods are used: the *Strange Situation* test and the *Attachment Q-Sort*. Both assess the extent to which the child uses the parent as a secure base. One challenge of attachment research is the limited number of validated indices of attachment security, as well as the limited age period during which these assessments are valid.

Translational Research

Animal research has played a critical role in driving the investigation of attachment and stress. Rodent and nonhuman primate studies have provided impactful insights on the effects of early social deprivation on stress physiology.

Key Research Questions

In research on attachment theory, some key questions are as follows:

1. What are the biological bases of attachment?
2. How do social relationships "buffer" or regulate the HPA reactivity?
3. How are the developing stress systems and their integration shaped by early life care?

Recent Research Results

To extend attachment theory to the study of stress, researchers have utilized animal models to examine the physiological systems underlying attachment behavior. We now know from animal research that core features of maternal caregiving, such as feeding and tactile contact, play a primary role in an offspring's development by functioning as "hidden" regulators of the stress response system. This is powerfully seen in results demonstrating that even while anesthetized, a mother rat can reduce the stress response of her pup, via her physical presence. Importantly, the influence of a parent in reducing an offspring's stress response reflects the attachment the young have for her. For example, titi monkey infants demonstrate a greater attachment to their father than their mother, and accordingly, the father is most effective at reducing the infant's cortisol levels in response to a stressor.

This line of animal research has given rise to important insights on how interactions with parents help shape human children's stress response. As in animal models, the HPA axis comes under social regulation in human children. Adults can reduce a child's cortisol levels in response to stress through their mere presence and proximity. This phenomenon has been termed parental *social buffering*. Notably, stress buffering is more complete in secure than insecure attachment relationships.

Early social interactions with attachment figures also facilitate a child's ability to cope with stress by shaping stress response neural circuits in the developing brain. Situations involving severe deviation from the typical caregiving environment provide evidence of the importance of early nurturing for HPA axis functioning. Children adopted from institutions for orphaned or abandoned children provide important insights on the effects of social deprivation. Infants and toddlers living in such institutions exhibit an atypical pattern of blunted diurnal cortisol production. This pattern is characterized by cortisol levels that are low early in the morning and do not decline in the late evening. Notably, these findings are parallel to those examining diurnal cortisol production in rhesus monkey infants raised on cloth surrogates. Years

after removal from institutional care, some children continue to show blunted cortisol patterns. These data suggest that the lack of a reliable, sensitive caregiver early in life may disrupt HPA axis functioning and have persistent effects throughout development.

Research Gaps

Whereas we have strong evidence of social buffering effects in mother-infant dyads, few data exist examining social buffering effects at intermediate stages of development, such as juvenile (around 7 to 11 years old) and adolescent children. However, emerging research suggests that adolescence may be a time when attachment figures become less effective buffers of the HPA axis, although teens still derive emotional support from parents. Further research is needed to determine how social stress buffering dynamics change from adolescence to adulthood.

More work is needed to examine the underlying mechanisms of social buffering of stress-induced cortisol release. While some recent animal models suggest a role for olfactory and somatosensory sensory factors, translational work is needed to identify mechanisms of social buffering effects in humans. Oxytocin, a hormone shown to be important to both social relationships and the functioning of the HPA axis, is one promising candidate for future research.

Finally, we are beginning to understand how early social experiences can become biologically embedded and exert a profound influence on health and development. Recent animal and human research suggests epigenetic mechanisms play a significant role. Rodent models show that social deprivation increases the reactivity of the HPA axis through epigenetic modifications in the glucocorticoid gene. More research is needed to advance our understanding in this area.

Conclusion

For better or for worse, early social experiences have a pervasive and persistent influence on a

child's development. The impact of a healthy and secure attachment is illustrated by research showing that social interaction profoundly influences HPA axis activity in humans and other animals. Notably, the social regulation of the HPA axis is moderated by attachment style. For securely attached infants, caregivers are able to completely buffer the stress response, whereas for insecurely attached infants, stress-related cortisol increases are observed even when caregivers are present. Further research is needed to advance our understanding of the mechanisms underlying social buffering effects on the stress response.

These data provide support for the importance of safe, secure care for children. Positive early social interactions with adults can improve children's health and well-being both short and long-term, facilitating the development of healthy future citizens of our society.

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See also Healthy Environments for Social-Emotional Development; Infant–Parent Relationships; Stress and Resilience in Families; Warm and Responsive Interactions

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ATTENTION-DEFICIT/ HYPERACTIVITY DISORDER

The United States Centers for Disease Control and Prevention (CDC) reports that 5.9 million children in the United States between 3 and 17 years of age have been diagnosed with attention-deficit/hyperactivity disorder (ADHD). These numbers make it the most common neurodevelopmental condition in the United States. The most common symptoms of

ADHD include an inability to focus, fidgeting or squirming, avoiding tasks or not being able to complete them, and being easily distracted.

This entry first defines ADHD. Next it covers how ADHD is diagnosed and concludes with current treatments, including behavioral approaches, and incorporating strategies for both families and early childhood educators working with young children at risk for or diagnosed with ADHD. The last treatment discussed is pharmacological intervention.

Definition

The criteria for identifying ADHD, listed in the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5), are characterized by a pattern of behaviors resulting in academic and/or behavioral problems across multiple settings for social, educational, and employment interactions. According to the DSM-5's definition, the symptoms must be observed over time and across multiple settings. The DSM-5 did not revise the behavioral criteria from the DSM-IV, but it did increase the upper age limit for age of onset from 7 to 12 years of age—based on research that shows that ADHD can be identified later in life.

The criteria listed in the DSM-5 for ADHD are very specific. The CDC website presents a shortened version of the criteria that details ADHD's behavioral symptoms and outlines two general types of ADHD that occur—one with more symptoms of inattention and one with more symptoms of hyperactivity and impulsivity (CDC, n.p.).

1. Inattention: Six or more symptoms of inattention for children up to age 16, or five or more for adolescents 17 and older and adults; symptoms of inattention have been present for at least 6 months, and they are inappropriate for developmental level.
 - Often fails to give close attention to details or makes careless mistakes in schoolwork, at work, or with other activities
 - Often has trouble holding attention on tasks or play activities

- Often does not seem to listen when spoken to directly
 - Often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (e.g., loses focus, gets side-tracked)
 - Often has trouble organizing tasks and activities
 - Often avoids, dislikes, or is reluctant to do tasks that require mental effort over a long period of time (such as schoolwork or homework)
 - Often loses things necessary for tasks and activities (e.g., school materials, pencils, books, tools, wallets, keys, paperwork, eyeglasses, mobile telephones)
 - Is often easily distracted
 - Is often forgetful in daily activities
2. Hyperactivity and impulsivity: Six or more symptoms of hyperactivity/impulsivity for children up to age 16, or five or more for adolescents 17 and older and adults; symptoms of hyperactivity/impulsivity have been present for at least 6 months to an extent that is disruptive and inappropriate for the person's developmental level.
- Often fidgets with or taps hands or feet, or squirms in seat
 - Often leaves seat in situations when remaining seated is expected
 - Often runs about or climbs in situations where it is not appropriate (adolescents or adults may be limited to feeling restless)
 - Often unable to play or take part in leisure activities quietly
 - Is often "on the go" acting as if "driven by a motor"
 - Often talks excessively
 - Often blurts out an answer before a question has been completed
 - Often has trouble waiting his or her turn
 - Often interrupts or intrudes on others (e.g., butts into conversations or games)

Children with ADHD can manifest primarily the inattention form of the disease or the hyperactivity/

impulsivity form, or they can present with a third form that combines behaviors from both categories. Boys experience higher rates of the mixed inattention and impulsivity form of ADHD, whereas girls demonstrate higher rates of inattention only. Because symptoms can change over time, the presentation may change over time as well.

Cause and Diagnosis

Researchers believe ADHD is a complex condition with varied and multifactorial risk factors. The CDC list of risks includes brain injury, environmental exposures (e.g., lead), maternal alcohol and tobacco use during pregnancy, premature delivery, and low birth weight. ADHD often runs in families, and genetic links continue to be studied. Research thus far estimates that 76% of cases have a hereditary link.

When diagnosing ADHD, a psychologist, psychiatrist, or pediatrician would look for the behaviors contained in the DSM-5 criteria for ADHD; the DSM-5 lists several other conditions that also must be met involving the age of onset of symptoms and their presence in two or more settings (e.g., at home, school, or work; with friends or relatives; in other activities). The following conditions are listed on the CDC's Web page on symptoms and diagnosis of ADHD (CDC, n.p.).

- Several inattentive or hyperactive/impulsive symptoms were present before age 12 years.
- Several symptoms are present in two or more settings (e.g., at home, school, or work; with friends or relatives; in other activities).
- There is clear evidence that the symptoms interfere with, or reduce the quality of, social, school, or work functioning.
- The symptoms do not happen only during the course of schizophrenia or other psychotic disorder. The symptoms are not better explained by another mental disorder (e.g., mood disorder, anxiety disorder, dissociative disorder, or a personality disorder).

Diagnosing ADHD is a process. No single test or scan identifies ADHD. Symptom behaviors

occur in many settings, so input from family and other caregivers provides valuable information based on their deep knowledge of the child. Caregivers may use checklists to record data of behaviors that are cause for concern. For a diagnosis that captures the range of behaviors across settings over time, it is important to get information from each caregiver about the child and his or her ADHD symptoms. Research by Megan Narad and colleagues indicates that the correlations between parent and teacher ratings of ADHD behaviors are only weak (inattention) to moderate (hyperactivity/impulsivity).

The prevention of challenging behaviors associated with hyperactivity and impulsivity are concerns for parents, caregivers, and teachers, but all preschool children at one time or another demonstrate hyperactivity, aggression, and oppositional behavior. When these behaviors reach a significant level over time and in multiple settings, they may signal a need for specific treatment. Most children are not diagnosed with ADHD in preschool, but the evaluation and data collection that start there are useful for later diagnosis. Data collection in school or preschool should show behaviors over time across the school year and behaviors in different settings (including both home and school) and should record the success or failure of different interventions.

ADHD is a long-term disorder. It is often recognized during the preschool years, particularly when the symptoms are significant, but management of the disorder must be considered long-term from the start. The idea of something being long-term at the preschool age can be daunting. Families usually want to resolve their child's diagnosis, not manage it. Everyone working with the family must emphasize that managing the condition will likely lead to improvement in behavior and school success.

A child with ADHD does not always require special education. ADHD is not listed in the federal Individuals with Disabilities Education Act (IDEA) as one of the 13 disability categories under which 3- through 21-year-olds may be eligible for services. For eligibility in a category of special education, there must be documentation of an educational need for services. A child demonstrating an

academic or behavioral need is one who struggles academically or does not successfully function in the group—perhaps engaging in disruptive behaviors.

Children with an ADHD diagnosis may also exhibit characteristics associated with a specific learning disability. If the child has a specific learning disability, he or she would be eligible for special education services under IDEA. Children with ADHD may also qualify for services under the IDEA within the category of “other health impaired.” A child who is academically successful, but whose function in the classroom is otherwise impaired, may receive educational services under Section 504 of the Federal Rehabilitation Act, which provides accommodations and adaptations to help students with ADHD in the general education setting.

Management of ADHD usually falls into two categories: behavioral interventions and medication. The 2011 clinical guidelines created by the American Academy of Pediatrics prescribe specific actions for clinical practitioners to follow when evaluating and treating ADHD. The guidelines call for evaluation of ADHD to begin at age 4. Diagnosis should carefully follow the DSM-5, including documenting the observation of symptoms in multiple settings. Reports from parents and/or other primary caregivers should be included in the data. Evaluation should also include assessment of other possible co-occurring conditions, including developmental disorders, emotional and behavior conditions, and physical disabilities. The key recommendation from the 2011 guidelines is that the first line of treatment should be only behavioral intervention but that medication can be added if the behavioral treatment alone is insufficient.

Behavioral Intervention

Prevention of challenging behavior can be effective. Once a child establishes a pattern of disruptive behavior, it is difficult to change. A combination of evidence-based strategies to prevent and intervene often leads to lasting effects. A good start is to teach all children the skills they need in the classroom or group setting. Teaching

children emotion vocabulary and expected social skills, as outlined by the Center on the Social and Emotional Foundation for Early Learning (CSEFEL), can enable success for children in social interactions.

K. S. Blair and colleagues report ways parents as well as teachers can create routines at home for difficult transitions such as bedtime, naptime, or meals. Classroom teachers can also create routines for lining up, taking turns, and going in and out of groups in ways that are developmentally appropriate. When a teacher or parent sets clear limits, children learn to follow rules and to manage their behaviors. All children need boundaries, but children with ADHD may need more reinforcement of those boundaries. Establishing a supportive environment with clear expectations has been shown to decrease disruptive behavior.

Although behavioral strategies help to shape behavior and function for a child with ADHD, they do not cure or intervene with the core cause of the condition.

Parent–Child Intervention

Defined parent training is the first strategy recommended for families of young children who are at high risk for, or have been diagnosed with, ADHD. Parent–child intervention therapy is a systematic approach to help family members learn to shape their child’s behavior. It usually begins with strategies to increase the responsiveness of the parent to the child. Early child and mental health researchers at the Society for Research and Child Development, along with Perry Butterfield and colleagues, and Lise Fox and colleagues support the development of the responsive relationship as it is shown to develop a good foundation that allows good follow-through with behavioral interventions later.

Attachment theory is based on the idea that a warm, sensitive relationship helps secure attachment and also provides a strong foundation for children to function effectively. Amanda Williford and Terri Shelton identify that a major component of parent–child intervention therapy is for parents to practice behavior modification strategies at

home. The Incredible Years Training Program, a psychosocial approach to supporting parent–child relationships, is another example of a well-supported parent intervention program for children with ADHD and their families.

Teacher Intervention

Children who exhibit challenging behaviors associated with the hyperactive/impulsive presentation of ADHD tend to have difficulty forming close relationships with teachers and peers. They tend to be less engaged in learning activities. Fortunately, there are many well-established evidence-based strategies for prevention and intervention with children who display disruptive behaviors. Fox and colleagues suggest a sequence of prevention and intervention strategies grounded in applied behavioral analysis and focused on identifying the antecedents and consequences of the behavior. According to Maureen Conroy and colleagues, behavioral principles based on applied behavior analysis theory are characterized by setting an environment that provides a fine balance of structure and boundaries with sensitivity to recognize subtle behavior changes. Children diagnosed with ADHD tend to lack the self-regulation skills needed to complete a task. These skills are referred to as executive function skills. The classroom practices that follow can assist children with ADHD, by both diminishing challenging behaviors and improving executive function skills:

- Clear behavioral expectations in the classroom; e.g., teach children explicitly what to do during each learning center activity.
- Natural consequences that are reinforcing when complete; e.g., by promptly responding to a call for getting jackets on, outdoor play time is maximized.
- Time limits for each step of a task; e.g., use a timer to indicate how much time is available to put shoes on after a rest period.
- Visual pictures or icons to represent a single task or the events of the day; e.g., visual schedules can help a child complete a task like hand washing by showing pictures of all steps of the

task. The Technical Assistance Center on Social Emotional Intervention has organized evidence-based materials such as visual prompts for early childhood teachers to use in classrooms.

Pharmacological Therapy

According to the American Academy of Pediatrics 2011 clinical guidelines, although behavioral intervention should precede medication, when it is not sufficient, medication should be considered. Medications for ADHD fall into two categories: nonstimulants and stimulants.

Stimulants are the most commonly prescribed medication for ADHD, and between 70% and 80% of children with ADHD respond well to these drugs. Children report increased attention, fewer distractions, and better focus when taking the drugs. The two most common types of stimulants are methylphenidate and amphetamines. Although it seems contradictory that stimulants increase attention, animal and human subject research has consistently shown that stimulants increase alertness and energy.

The Children and Adults with Hyperactivity Attention Deficit Order (CHADD) website outlines the benefits of stimulants for individuals with ADHD. The stimulants work quickly and effectively for most children. Elizabeth McClain and Erin Jewell Burks write that stimulant medications sometimes generate side effects. The most common side effects include appetite reduction, weight loss, sleep disturbance, headaches, and stomach pain. Growth delay is another concern; however, research findings indicate that growth delays end after about 6 months of medication, and normal growth rates return. Preschool teachers must carefully monitor young children taking stimulant medication.

Nonstimulants were approved by the U.S. Food and Drug Administration for treating ADHD in 2003. They are usually prescribed when stimulant medications are either ineffective at relieving symptoms or are causing side effects. McClain and Burks identify three commonly prescribed nonstimulants: atomoxetine (brand name: Strattera), clonidine hydrochloride (brand name: Kapvay), and guanfacine extended-release (brand name:

Intuniv). These medications have been found to decrease distractibility and impulsivity and increase working memory. Negative aspects of these drugs are that they may affect the child's mood and may not change behaviors until the child has been taking the drug for several weeks.

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See also Assessing Children for Disabilities; Differentiated Instruction and Assessment; Early Childhood Special Education; Early Intervention

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Websites

- Center on the Social and Emotional Foundations for Early Learning: <http://csefel.vanderbilt.edu/>
- Centers for Disease Control and Prevention: Attention-deficit/hyperactivity disorder (ADHD): <http://www.cdc.gov/ncbddd/adhd/index.html>

ATYPICAL DEVELOPMENT

Atypical development refers to situations in which children's behaviors vary from normal expectations. The behaviors might vary in the timing of their appearance (e.g., late in speaking), in the sequence of their appearance (e.g., walking before crawling), or in their form (e.g., perseverative play with one toy or object). These instances of atypical development can occur in one or more areas of a child's development: physical, sensory, cognitive, language, or social-emotional.

It is important to note that diversity is expected in normally developing children, both between individuals and within a given child. For example, some children may be stronger in language than in physical skills and one child may have advanced cognitive skills but less well-developed social interaction skills. There is a wide range of normal timing for achieving most developmental milestones (first steps, first words, etc.). Development is only considered atypical when it doesn't fit into normal ranges on developmental charts and inventories and/or is considered outside the range of normal in the judgment of a professional evaluator.

Children's development may depart from the norm for a variety of reasons. They may have disabilities that are genetic or chromosomal in origin, for example, Down syndrome. There may have been medical difficulties before or during birth. They may be negatively influenced by a variety of environmental factors that impinge upon their development, such as environmental toxins, inadequate nutrition, or lack of appropriate stimulation and nurturance. In some instances of atypical development, causation is complex and not yet clearly understood. The term *atypical development* is frequently used by professionals to describe developmental variations for which there is no other specific diagnosis, for example, autism or cerebral palsy. Although gifted children, who often achieve developmental milestones significantly ahead of the normal range, could be considered to show atypical development, this entry focuses on atypical development that is deleterious for young children's development. The entry discusses cautions in identifying atypical development

and explains how atypical development is identified. It then discusses why early intervention can be important in cases of atypical development and the types of services and interventions available.

Cautions in Identifying Atypical Development

Often caregivers and early childhood teachers are the first to notice atypical behaviors in young children. Their training and experience makes them valuable in observing children's development and in seeking corroborating information from other professionals and from families. However, young children are sometimes inappropriately labeled as exhibiting atypical behavior. This is more likely to occur in situations in which children engage in disruptive behaviors, where their culture differs from that which is predominate in their environment, and when their family's primary language is not English.

Cultural Considerations

Children's family and cultural environments can influence their behaviors and even their performance on developmental scales. Children for whom English is a second language may not understand the instructional language and varied conversations that occur, especially in group settings. In such cases adults might incorrectly perceive them as slow learners, noncompliant, lacking in initiative, or asocial. In addition, normal cultural expectations may present problems. For example in some cultures, eye contact with adults is seen as disrespect. Yet at school a child might be considered inattentive or be reprimanded for not making eye contact with the teacher or caregiver.

Teachers and caregivers are influenced by culture too. Researchers found that when early childhood caregivers from two different cultures were asked to rate the importance of a variety of skills and competencies for children up to age 6, their answers were significantly different and reflected their own cultures. It seems that a caregiver's own cultural background is likely to influence his or her perceptions of atypical behaviors as

well as determine the strategies used in working with children. Clearly any assessment to determine if a child's development is truly atypical must involve a range of family and environmental considerations.

Setting Considerations

Children's misbehavior in group settings (child care, preschool) frequently leads to their being singled out as having developmental problems. It is important to remember, though, that young, normally developing children are still learning behaviors such as self-control, attention, flexibility, empathy, and compliance. Children who have no siblings or playmates at home, for example, might need more time to learn interaction skills than children from other families. Children's personalities differ as well; some are more active than others, some quieter than others. Yet some group settings are relatively inflexible in meeting the diverse needs of these young learners. Finally in some cases the group setting itself supports a child's misbehavior, especially if staff regularly pay attention to (correct or punish) the child's disruptive behaviors with little nurturing and supporting of positive behaviors. Careful, systematic observation is needed to determine if children's behavior is reflecting true disabilities or if there are other explanations.

Identifying Atypical Development

Atypical development can be observed as early as infancy, for example, when an infant's responsiveness to environmental stimuli is significantly less or greater than expected. However, it might not be evidenced until children are in preschool or as late as the early elementary grades. Many children with learning disabilities are not identified until the elementary grades. Whatever the case, it is important to assess the child's situation as soon as concern is raised and to provide intervention where needed. Early intervention is critical and often can prevent secondary disabilities from occurring.

To accurately identify a child as exhibiting atypical development then, a thorough assessment must be conducted. Any authentic and comprehensive assessment of young children should be culturally

sensitive, involve information from multiple sources, and reflect the varied settings in which the child participates (home, school, play, etc.). Effective assessment techniques include developmental screening using standardized tools such as developmental checklists, rating scales (e.g., the Bayley Scales of Infant and Toddler Development), professionally conducted systematic observations of the child in a range of interactions and settings, and family input through use of checklists, observations, and interviews.

The outcome of this systematic assessment is to describe a child's achievement of developmental milestones, unique developmental patterns, and functional abilities, and to ascertain whether the child's developmental variations reflect a true instance of *atypical* development rather than normally occurring differences in development. If the conclusion is that of atypical development, it is important that the assessment identify appropriate strategies for supporting and monitoring the child's continued developmental growth. This evaluation can then provide guidelines for early intervention tailored to the child's unique situation.

Authentic assessments should include information about a child's strengths as well as needs. Successful interventions nurture children's learning through engaging their interests and abilities. Assessments should also include information about the child's family and environmental situations (home, school, neighborhood) that may be supportive or may put the child at further risk developmentally. For example, a parent who is attentive and who interacts and talks with a young child regularly is providing a support that is lacking in situations where a parent is stressed and seldom focuses on the child. The strengths, interests, and needs of the child's family and environment are important factors in developing successful intervention programs. In situations where there is need for more effective nurturance and responsiveness in the child's environment, early intervention can support the roles of families and caregivers, making them more effective in facilitating their child's development. A program that is responsive to the needs, abilities, interests, and dispositions of the

family as well as those of the child can help establish a resiliency that enables the child to continue growth on an appropriate developmental path.

Early Intervention

Need for Early Intervention

Early intervention is important for all children who are identified as exhibiting atypical development, even in cases where the behavioral differences noted are mild. It is very difficult to determine between children whose atypical development will likely be temporary and children whose difficulties will persist and be pervasive. Too often families are advised to wait and see if a child's behaviors will improve over time; when this happens, the child, family, and caregivers miss the valuable support that could enhance the child's learning and prevent further developmental problems. Children who have difficulty communicating will miss out on numerous opportunities to learn language and to socialize. Children who have difficulty interacting with others will miss opportunities to explore the environment and to build social relationships with adults as well as peers. Situations such as these hinder a child's ability to learn through normal everyday experiences. Sometimes a year or two of early intervention is all that is needed for a child to acquire new abilities and continue to progress on a normal developmental path, preventing the future development of any learning or behavioral disability. Certainly in cases where a child's developmental deviations are enduring, early intervention is of critical importance.

Services and Interventions

Intervention can provide families and caregivers with information to understand and accommodate to their children's difficulties. It can identify helpful community resources, strategies for dealing with difficult situations, and successful, positive approaches and techniques for nurturing children's learning. Goals for the intervention services are based on the assessment information and incorporate the strengths and needs of the child, family, and learning environment. The services and support

provided are typically delivered through home-based and/or center-based programs (agencies, child care, preschool, school). It is important, however, that the intervention efforts include children's families, regardless of the program location. Supportive families are necessary as children transition from one program to another and face new developmental challenges. They are needed to provide important teaching and support throughout a child's life.

Depending on the child's developmental concerns, intervention may involve a variety of professionals, such as early learning specialists, special educators, physical and occupational therapists, speech and language specialists, psychologists and child behavior specialists, social workers, and medical personnel. An IFSP (individualized family service plan) or IEP (individualized education plan) will be developed based on assessment findings as well as input from the child's family, caregivers, teachers, and involved professionals. The plan will identify appropriate goals for the child, state the services and educational techniques required to achieve those goals, and establish a method for evaluating the progress toward those goals.

Families and professionals will continue to meet regularly to ensure that the educational plan is effective and to make changes where needed.

Early intervention programs provide important resources for young children identified as having atypical development, and also for their families and caregivers. When these efforts are in place early in a child's life, they enhance children's learning and development. They can modify obstacles to a child's normal developmental progress by encouraging behaviors such as attentiveness, self-control, and positive interactions with peers. They further enhance children's resiliency by supporting effective parenting and caregiving.

Sara Willoughby-Herb

See also At-Risk Families; Authentic Assessment; Bayley Scales of Infant and Toddler Development; Checklists and Rating Scales; Family-Centered Practices; Individualized Family Service Plan and Individualized Education Program; Observational Assessment; Teacher Beliefs

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AUTHENTIC ASSESSMENT

As children mature, they often develop unevenly across developmental domains. Reliable studies also confirm wide variations among children of the same chronological age relative to changes in physical, cognitive, social-emotional, and aesthetic development. These facts alone render single, more conventional assessments less useful or reliable in documenting what children actually know and can do at any particular age. This is the most compelling reason why increasing numbers of educators in the 1980s began to question the efficacy of traditional methods of testing (e.g., paper and pencil tests) and to call for more practical alternatives. Early advocates such as Grant Wiggins, P. David Pearson, Elfrieda Hiebert, and others began to press for the use of what they termed *authentic assessment* to measure and evaluate growth.

Authentic assessment (otherwise referred to as *performance assessment* or *direct assessment*) requires children to demonstrate fundamental knowledge or skills they have learned in order to complete real-world tasks they are given. It is effective in education settings of all types and at all levels and has proven to be a more valid procedure than relying on alternatives such as multiple-choice, paper and pencil tasks that require the learner to simply identify a correct answer. This is especially true in early childhood education where children have immature language and literacy skills, as well as limited ability to follow directions or interpret printed instructions. Also, because young children have little understanding about the importance of assessment or interest in doing well with traditional modes, creative and interesting authentic assessment tasks are more likely to arouse their interest and maintain their attention.

Although the aim of both traditional and authentic assessment is to measure attainment of essential knowledge and abilities, authentic assessment goes a critical step further in that it requires *demonstration* of the knowledge or ability. The student must be able to actually *do* something with the acquired knowledge or skill. Thus, the two methods of

assessment look quite different in practice. This entry discusses characteristics of authentic assessment and important ways in which it differs from more traditional assessment, a variety of effective outcome measures, and commonly used strategies that can be used to evaluate students' products, demonstrations, and performances.

Characteristics of Authentic Assessment

In 2003, the National Association for the Education of Young Children (NAEYC) and the National Association of Early Childhood Specialists in State Departments of Education (NAECS/SDE) issued a joint position statement about what they believe constitutes ethical, appropriate, valid, and reliable assessment for children, birth through the primary grades. They acknowledge that individually administered norm-referenced tests may be needed to make sound decisions about children requiring early intervention; however, they caution that these should be limited in general practice and should always be accompanied by corresponding evidence.

There is widespread agreement in the field of early childhood education that in order to be considered *authentic*, assessment must be guided by ethical practices and conducted in concert with the following considerations:

Methods used are developmentally appropriate. The assessments that are selected take disabilities into consideration and are age appropriate, individually appropriate, and culturally and linguistically appropriate. Whenever normed measures are used with children who are English language learners (ELLs), non-English proficient (NEP), or limited-English proficient (LEP), the validity of passing scores and cutoffs is a critical factor. Because proficiency in a second language progresses in distinct stages, functionality in academic language takes far longer than that of conversational language; as a result, conventional measures can be strikingly inappropriate for these students. A child may actually know the answer to a question posed but

cannot read or understand the question well enough to select the correct response. Frequently, workbooks and worksheets fall into this category.

The tasks that are created should flow from a set of content standards or listings of what educators believe children should know and be able to do. According to psychology professor Jon Mueller, author of *The Authentic Assessment Toolbox*, standards should always be written so that they are amenable to assessment. Because standards are somewhat broader than objectives, the tasks that spring from standards may typically involve more time, more than a single topic, and even more than one discipline. Consider the task given to small groups of second graders to work together to create a papier-mâché globe showing the continents and bodies of water they have studied. The teacher moves among the students, observing carefully and documenting many aspects of what has been taught and learned. She notes such evidence as what each child can do independently; ability to follow directions; use of the materials; attention to task; ability to spell correctly the names of the continents and bodies of water; the use of art and math abilities in determining shape, proportion, and proximity of land and water; ability to work collaboratively with others; use of the computer to create printed labels; and use of the Internet to access further information to create what they want. This is an example of a deep and broad activity that yields not only information about the students' geographic understandings but also evidence about their abilities to draw on other critical aspects of learning.

Materials and tasks selected for authentic assessment should be based on children's interests and abilities, with continuous reflection about children's current achievement levels. When assessments are designed by companies or organizations that have no idea about the specific standards created for the students being evaluated, they can rarely be considered authentic.

All developmental domains are evaluated, not just academic productivity. A lack of maturity in fine

motor skills, cognitive processing, self-regulation, emotional development, and socialization can significantly and negatively influence children's ability to learn or effectively apply what they are learning. They, too, should be evaluated.

Classroom teachers are trained in ways to creatively coordinate content standards with instruction and design valid, reliable, and efficient ways to measure and evaluate children's progress or lack of attainment. They are knowledgeable about standards related to what they should be teaching, about how children learn and develop, and about the importance of providing adequate time and opportunities to support learning prior to assessment.

Assessments are tied to children's daily activities and conducted in the natural learning context by persons familiar to the child. To produce the most accurate results, data are routinely gathered from realistic settings and situations reflecting what children know and are able to do.

Assessments conducted are purposeful, beneficial, educationally significant, and bridged in a thoughtful and careful manner to published standards. Students' responses contribute in a meaningful way to adjusting instructional planning, advancing program development, identifying any special needs, and moving children's learning forward.

Assessments are designed so that the tasks themselves are authentic; that is, they are closely aligned with what students will have to do in real life. This is what establishes a task's validity, which is a critical technical requirement of any type of assessment. The reliability of assessments results from standardizing criteria for evaluating the quality of students' responses, usually in the form of clarity-producing rubrics or exemplars that are shared with learners during the instruction phase and prior to assessment. The tasks given require a deeper understanding by calling for some sort of application, analysis, or synthesis on the part of the student.

Multiple sources and reasonable amounts of evidence are gathered periodically over time and used for planning and decision making, keeping in mind the following:

- There must be a sufficient *variety* of measures offered so that children have choices in how to demonstrate what they know. In some cases, students themselves may also be encouraged to create valid and legitimate applications of some sort to show proficiency.
- The assessment tasks that are created allow for individual variation in the children being tested and take into consideration differences in styles and rates of learning. For example, according to Scott Barry Kaufman, scientific director of the Imagination Institute at the University of Pennsylvania, children who have been diagnosed as having attention-deficit/hyperactivity disorder (ADHD) have different neural networks. While a classmate with well-developed executive function may score exceptionally well on conventional tasks, a child with ADHD probably will not; however, he or she may function quite well—and even better—on applied tasks that require creativity, imagination, or out-of-the-box thinking if given an opportunity to display ingenuity. Innovative people who were considered early misfits in the classroom, such as Thomas Edison, Winston Churchill, Albert Einstein, Steve Jobs, and Michael Faraday, likely would have benefited from such an approach.
- There should be multiple data points collected, and outcomes from one test should never be used to make decisions about educational placement or aptitude. Traditional assessments, often called “snapshots in time,” cannot capture the dramatic kinds of changes in learning that take place from day to day, sometimes overnight in many young learners.
- Traditional measures, which are summative rather than formative in nature, rarely contribute to a teacher’s ability to make needed adjustments to instruction in a timely or meaningful way.

Principled data gathering is a shared responsibility among teachers, children, administrators, parents,

and others concerned with the child’s ongoing development and well-being. This requires effective communication among these participants. Educators who decide to use normed or criterion-referenced tests should be informed about whether there are sufficient validity and reliability for a particular test, whether the norming group is representative of the children to be tested, how to interpret statistical meaning of derived scores, and how to share the information in a useful way with all stakeholders. When using end-of-the-unit traditional assessments, teachers should first assess the quality of instruction they have provided to the learner and whether or not the items are truly representative of what children should know and be able to do. Children should be involved in keeping track of their own progress and encouraged to set their own goals for further learning and skill development.

It’s clear that many of the principles of authentic assessment just mentioned can be routinely violated when educators rely too heavily on conventional methods such as paper and pencil tests to document how children are progressing in their learning. The following section gives a sampling of alternative strategies that educators may use in keeping with the principles of authentic assessment.

Strategies for Authentic Assessment

Because authentic assessment requires students to apply knowledge and/or skills, measurable outcomes usually fall into three major categories: products, demonstrations, or performances.

Products

Products result from any number of tasks carried out in the regular learning context and are specifically related to what children have to do with the skills and concepts under study. The products could consist of the following:

- Artwork
- Musical compositions
- Many types of written and illustrated materials (e.g., advertisements, letters, poems, journals,

science logs, surveys and tallies, graphs, maps, written book reviews, reports, graphic organizers, newspaper articles, posters, nursery rhyme repetitions)

- Pictures of constructions, documentation boards, and other artifacts from project work
- CDs that demonstrate reading progress from grade to grade
- Videos of performances, podcasts, slide presentations, and photos with narratives

Anything that children can produce while drawing on the academic skills and knowledge they are acquiring is a legitimate product—the more creative and enterprising, the better.

Keeping Track of and Organizing Products: The Use of Portfolios

Portfolios are rich, purposeful, and dynamic hard copy or digital collections of students' products over time. The contents are unique to each child and provide tangible evidence of academic growth and achievement, showing a child's best work from selected domains and at particular points in time. Because they are shared periodically with others, such as during student-led conferences, portfolios foster pride in students, causing them to be reflective evaluators of their own work and strengthening the connection between home and school. As students learn how to organize and maintain these collections and share the contents with their classmates, teachers, parents, and others, they are in fact learning other important life skills about communication, self-appraisal, goal setting, and their own learning trajectory.

Demonstrations

Demonstrations are constructed responses from students that usually directly follow a teacher prompt to show acquisition of particular knowledge, skills, or both. Examples of authentic demonstrations include the following:

- After studying electrical circuits and then constructing one of their own, students are asked to then demonstrate and explain to a classmate,

the teacher, or to another classroom of students how their circuit works.

- Children are asked to demonstrate automaticity with addition (or subtraction, multiplication, and division as appropriate) by solving as many given problems as possible in a 5-minute time period.
- To see if reading is on a grade level relative to accuracy and comprehension, the teacher administers reading inventories periodically to individual children.
- Dyads of prekindergarten children who have been studying geometric shapes are given a number of small paper squares, circles, rectangles, and triangles. They are asked to attach them to objects or places where they discover the various geometric shapes in a walk around their classroom and then around the school.
- After studying characteristics of leaves, students enjoy a field trip to a local arboretum where they find, draw, and label in their science journals at least five different kinds of leaves.
- Students in a mixed third- and fourth-grade classroom have been learning about differences in literary genre. Teachers Charles Nicholas and Katherine Crawford provide small groups of students with a variety of grade-level books from the school library. The students are to review as many books as possible and complete a form that obliges them to differentiate between nonfiction (also telling whether it is a biography, an autobiography, or informational) and fiction (telling whether it is historical, realistic, science, a mystery, or a fantasy).

Child Self-Assessment

When we talk about authenticity in assessment and evaluation, a key component is making sure that children are drawn into the process so they have ownership and investment in their own learning and progress. An example of a self-appraisal exercise can be seen in Figure 1 where 4-year-olds have been asked to complete an "I Can Do Math" self-assessment. The teacher has created a checklist of skills drawn from the school's math standards and the many math-directed activities the children

Figure 1 Self-Appraisal Exercise

I CAN DO MATH

PreK–Level 2 Self-Appraisal

Directions: Observe and have child color in or check box if he/she has been able to demonstrate the skill. Use appropriate concrete materials for tasks. If child completes all skills prior to the next assessment period, create a new list of skills to evaluate additional math abilities.

Child's Name: _____

SKILL/DATE	October	February	May
I CAN:			
count to 20 in stable order.			
demonstrate 1–1 correspondence up to 10.			
write numerals 0–10.			
read a number line through 20.			
say ordinal numbers to 10.			
create and extend a pattern.			
order a set of materials by height or width.			
measure length, using a nonstandard measure.			
compare sets to 10, telling more than, less than, the same as.			
create a circle, square, triangle, and rectangle.			
add numbers within 5.			
subtract numbers within 5.			
pose a question and collect data.			
display data with assistance.			

What skill will you work on for next time (describe/date)? _____

Date: _____

have experienced from the beginning of the school year. As the teacher reads a skill on the list (e.g., count to 20 in stable order), the child demonstrates the skill. If successful, the child checks or colors in the box indicated; if not yet able to demonstrate the skill, it is left blank with the teacher saying, “This is one for us to keep working on.” This keeps the targeted skills in the teacher’s mind relative to subsequent instruction and also maintains the child’s focus about what still needs practice.

Dynamic Assessment

Brief mini-conferences, which involve teachers interacting with an individual child or a small group of children, allow teachers to gain information about what students understand and can apply. For example, a kindergarten teacher is trying to determine a child’s level of comprehension about a story that has been read to him. The child has limited English skills and is not yet able to communicate expressively in English, although his receptive

English language is clearly growing. Using a series of cards with pictures sequencing the story line, the teacher asks the child to line them up according to the way the story happened. When the child does so, quickly and confidently, the teacher is satisfied that the child's receptive language, attention during shared reading experiences, and concepts about literature are developing satisfactorily.

Performances

Performances can be considered the gold standard for authentic assessment. As defined by Jon Mueller, they are usually broader than a constructed response or demonstration, are more substantial in depth, and require more time to complete. Included could be sports competitions, musical concerts or dance performances, readers' theater, plays, authors' nights, debates, skits, and many other real-life applications of learning. They can result from a teacher prompt or spring naturally as a culminating experience at the end of a theme or project. Examples include the following:

A fifth-grade class wants to find a way to contribute to a local charity. The students decide that for one week, they will open and operate a school store where students and parents can purchase some appealing products. The profits will be given to the charity. The students prepare a slide presentation for administrators of the school, requesting funding for the products they need to purchase and which they believe they can make a profit on. They include a rationale for the store; how it can benefit them as learners; a list of products and where to get them; a budget; a timeline for implementation of the project; and a plan for students' responsibility in set-up, before- and after-school sales, and take-down. Receiving the funding, the students work together to implement the project; deliver the profits to the local charity; and hold a meeting with administrators to return funding, thank them for their loan, and report on the academic and personal value of the project.

Second graders in an international school in Beijing, China, have prepared an original poem, which they have written in both Chinese and

English. The teacher arranges for friends and family members to come in to listen to a reading of the poems in both Mandarin and English by the students.

Kindergarten students have been involved in a semester-long theme about fish. They have obtained pictures of different kinds of freshwater and saltwater fish from information books and the Internet, have learned the names of them, have replicated them during their art period, and have dissected a large fish. Following a field trip to the local aquarium where they went on a "fish hunt" to find a certain specimen, they have created an underwater mural along two walls of the classroom and have invited family members and other classes to come in to see the "aquarium." These young ichthyologists are able to tell their visitors the names and colors of each fish, what they eat, how a swim bladder allows them to rise or descend in the water, and what happens if the water becomes too dirty.

Evaluating Task Performance

For evaluation of tasks in any of the three categories just described, rating scales or rubrics are extremely useful. Rating scales are similar to teacher-constructed checklists in that variables of interest are listed; however, there is always an *evaluative* component with rating scales that defines a categorical range of behavior/skill acquisition (e.g., skill is well developed, skill is practiced often but not always, skill is rarely observed). Variables can be represented along a numbered criterion (0–10, in which 0 = low and 10 = high) or an open continuum of extremes or opposites (e.g., incomplete to complete, control versus autonomy, self to other). Subjectivity in making a decision about where to place or "grade" a student along a continuum or placement in a particular category can be a problem if there is bias and requires caution on the part of the rater.

Rubrics are somewhat more objective. Instead of a simple rating of a trait or behavior, there are two or three qualifying criteria that must be observable and must be met. These should be clear and distinct. For example, students may be given

Figure 2 Student-Led Conference Rubric

Criterion/Score	5	3	1
Selection	I was able to explain to my family why I selected the pieces that I included. There was at least one selection from all of my subject areas.	What I said was okay but would have been better if I had practiced a little more. I included samples from most of my subject areas but not all.	I couldn't explain why I selected the pieces. There weren't any samples from one of my subject areas.
Organization	I organized my portfolio well. It was easy to find what I wanted to show to my family.	I needed too much time to look for the different subject areas but almost everything was there.	My portfolio was disorganized. I couldn't find some of my best work.
Participation	I loved showing my family how much I have learned. It was fun.	I liked doing this. I'll like it better next time when I'm better organized.	I wasn't ready for the conference at all. I didn't work hard enough to get ready.

a rubric ahead of their student-led conference that helps them understand the kind of application the teacher expects and desires (see Figure 2). These serve as a guide for the conferences, and children also use the rubric in a debriefing discussion following the conferences to self-evaluate their performance. Learning to use a rubric as a self-appraisal tool contributes significantly to children's expanding independence and ability to take responsibility for their own learning.

Authentic assessment offers educators ethical, valid, and reliable strategies for finding out if what they are teaching is really working. Students who participate in authentic assessment become equipped with the knowledge and skills that will benefit them throughout their lives, including self-reflection, critical thinking, organizational skills, and an ability to communicate and collaborate well with others.

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See also Assessment, Limitations of; Developmentally Appropriate Practice; Standardized Assessment; Standards-Based Curriculum and Assessment

Further Readings

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AUTISM SPECTRUM DISORDER

Autism spectrum disorder (ASD) refers to an array of neurodevelopmental disabilities that are typically expressed as difficulties in social, communication, and emotional learning and behaviors. Though the term *autism* has been in use for nearly a century, the incidence of this disorder has been rising regularly. In 2014, the Centers for Disease Control and Prevention estimated that 1 in 68 children in the United States has been identified as having ASD, with the incidence among boys almost five times that of girls. There is great diversity in how this disorder appears in children; hence, it is described as a spectrum of behaviors. It varies in timing of onset (though it emerges in the early years), the behavior challenges exhibited, and the severity and pervasiveness of those challenges. This entry presents a discussion of child behaviors commonly associated with ASD, the diagnosis and classification of ASD as a disability, the services and types of intervention available for persons with ASD, and the prognosis for those with ASD.

Behaviors Associated With Autism Spectrum Disorder

Autism spectrum disorder can be identified as early as infancy, but most often it is diagnosed by the second or third birthday. When children's symptoms are milder, it might not be identified until they begin school or later. Diagnosis is done by professionals who interview parents and teachers and perform behavioral observations and assessments. Children with ASD experience challenges in social, communication, and emotional development. For example, they might avoid interaction with others, not make eye contact, not initiate or respond appropriately to social interactions, not react to others' feelings, be extremely noncompliant, or become easily upset by changes in routines. Their language may be delayed or have stereotypic characteristics such as being repetitive, echolalic, excessively literal, lacking in emotion, or having unusual prosody (intonation and rhythm). They might engage in repetitive

motions (rocking, hand flapping), display obsessive behaviors (showing interest primarily in one toy or topic), or have unusual sensitivity to environmental stimuli. They have difficulties in understanding and engaging in social reciprocity and may find it difficult to form relationships with others. Intellectual disabilities may or may not be present. Sometimes unusual talents and abilities are present, for example, being able to focus on a topic or problem for extended periods of time.

Diagnosis and Classifications of Autism Spectrum Disorder

The American Psychiatric Association develops and publishes guidelines for diagnosing an array of mental disorders. These guidelines, known as *The Diagnostic and Statistical Manual of Mental Disorders* (DSM), are used by a range of clinicians and are relied on for determining the necessity for and funding of therapeutic services. In the fifth edition of the manual (DSM-5), released in 2013, the American Psychiatric Association narrowed its definition of ASD. However, because in some places the former diagnostic classifications remain in use, both are described here. The former diagnostic classifications are discussed first, followed by an overview of the more recent description of ASD in DSM-5.

Former Diagnostic Classifications

Until recently ASD was described as having three classifications: classic autism, Asperger's syndrome, and pervasive developmental disorder—not otherwise specified (PDD-NOS). These three classifications reflect variations in how ASD is expressed in individuals, such as the severity of symptoms and its pervasiveness across developmental areas.

Classic autism refers to individuals with the most serious symptoms. These children communicate very little if at all, may engage in repetitive and stereotypic motor behavior, are very delayed in social and emotional development, have great difficulty in adjusting to environmental changes, and often have accompanying intellectual deficits.

Asperger's syndrome refers to individuals with less severe symptoms and whose symptoms are not as wide-ranging as in classic autism. For example, they typically do not have intellectual deficits and are sometimes gifted intellectually. Many of these children do not have language acquisition problems, though they typically have some communication difficulties, as in understanding another person's point of view and in understanding and expressing emotional content in language. They often have difficulty in following normal back-and-forth rules of communication.

Asperger's syndrome is often referred to as high-functioning autism, as persons so diagnosed often have remarkable abilities along with their difficulties.

PDD-NOS refers to individuals who exhibit a few but not all of the symptoms of ASD and whose symptoms are milder than those of persons with classic autism and Asperger's syndrome.

The Diagnostic and Statistical Manual of Mental Disorders Definition

The DSM-5 description of ASD differs from the three aforementioned classifications in that it omits Asperger's syndrome as a separate category, and it includes PDD-NOS as a category apart from ASD. It defines ASD as presenting difficulties in social interaction and communication. The difficulties arise in the developmental years, interfere with successful functioning, and are present across a range of situations. This new diagnostic guideline identifies three classifications under ASD based on the severity of the disability: requiring very substantial support, requiring substantial support, or requiring support.

Children previously diagnosed as having Asperger's syndrome might now be classified under ASD, under PDD-NOS if their symptoms are mild and restricted, or as having a social communication disorder if language is their primary difficulty. Although Asperger's syndrome is no longer a diagnosis sanctioned by the American Psychiatric Association, it is likely that the term will remain in use by the lay community and by persons with

high-functioning autism themselves. These individuals often identify themselves culturally as Aspergians and have support networks that are responsive to their unique needs and strengths.

Services and Intervention

Early intervention is particularly important for children with ASD. In addition to supporting children's learning, it can interrupt the development of ineffective social, motoric, interactive, and communicative behaviors. Early intervention assists parents and teachers in dealing appropriately with difficult behaviors and in interacting in ways that enhance children's development. Family physicians and parents are often the first to seek a diagnosis for a young child. Although most children are identified by the preschool years, some are not identified until elementary school. Because ASD can be incorrectly labeled as mere misbehavior, it is important to assess school-age children who appear to have social interaction problems, are noncompliant, get upset easily, or have difficulty with routines. Because children's behaviors are so diverse, intervention involves a range of settings, methods, and professionals. Medication is sometimes prescribed for concurrent conditions such as inattentiveness or hyperactivity.

Community Intervention Resources

Early intervention programs provide treatment for children from birth to age 3 and their families (in both home and center-based settings), while public school systems serve children older than age 3 and their families. These programs provide a variety of treatments and are staffed by a range of professionals. Depending on an individual child's needs, intervention might include physical therapy, occupational therapy, speech and language therapy, behavioral therapy, psychological counseling, home- or school-based education provided by an early education specialist, or inclusion in regular education programs. The services of these professionals are planned and coordinated through an individualized family service plan (IFSP) or, for school-age children, an individualized education program (IEP).

These individualized education plans identify goals for each child and describe the types of services and educational strategies to be implemented in order to reach those goals. Parents and sometimes older children are contributing members of these teams. The teams meet regularly to assess the progress and to make adjustments where needed.

Home-Based Intervention

The home setting is often most ideal for children up to 3 years of age. Home visitors meet with parents and children on a regular basis to implement the child's educational program. Educational goals focus on assisting the child and parents in managing daily routines such as eating, playing, bathing, interacting with others, talking, and dealing with disruptive behaviors. The techniques used are typically naturalistic and involve teaching through building on skills and interests already exhibited by the child, using clear and consistent language, modeling new learning, and rewarding the child's accomplishments. Because children with ASD typically present emotional challenges such as frequent refusals and tantrums, the visiting professionals can assist the parents by modeling positive ways to deal with such situations. Indeed, a clear advantage of home-based intervention is that the early childhood professionals have an opportunity to teach the parents and siblings along with the child. This opportunity to meet regularly with individual families also allows the visiting professionals to provide information and emotional support to families as they face the challenges of raising a child with ASD. When families and professionals use the same approach, the child's learning environment becomes much more consistent, enhancing the child's progress. This kind of interaction results in true family-centered intervention.

The National Autism Center has published a guide for parents to use when planning and choosing the types of intervention approaches that would best suit their children. This manual, *A Parent's Guide to Evidence-Based Practice and Autism*, presents successful, researched-based practices that range from intensive one-to-one behavioral instruction led by a board-certified

behavior analyst for children with severe ASD to naturalistic techniques such as peer tutoring that are useful in inclusive early childhood settings.

Center-Based Intervention

By the time children reach their third birthdays, intervention is typically provided in early childhood centers. Inclusion settings in which children with ASD are integrated into regular preschool and early childhood settings are quite successful for many children. Children enrolled in these settings can continue to receive regular therapy from specialized professionals, such as physical therapists, psychological therapists, and behavior therapists. Often an adult assistant joins the child in the inclusion setting to assist in negotiating the classroom, following rules and routines, and making friends with other children. Successful inclusion teachers adopt the many techniques that have been developed to support the learning of children with ASD. Examples of these are using pictures and symbols to make language more understandable and predictable, playing with children in order to establish joint attention for teaching, teaching consistent social interaction skills to all children in the class, and using scripted social stories to teach appropriate behaviors and understandings.

Prognosis

Depending on the severity of their condition, persons with ASD may need professional support throughout life. However, with early diagnosis and consistent implementation of successful educational approaches, many individuals with ASD can become competent adults and effective and contributing members of our society. Accomplished adults such as Temple Grandin and John Elder Robison have written compelling personal stories about their lives and achievements in spite of the unique challenges presented by their ASD diagnoses.

Sara Willoughby-Herb

See also Early Childhood Inclusion; Early Childhood Special Education; Early Intervention; Family-Centered Practices; Individualized Family Service Plan and Individualized Education Plan

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- National Center on Inclusive Education, Institute on Disability: <http://iod.unh.edu/priorityareas/inclusive-education/ncie-resources/links.aspx>
- National Institute of Child Health and Human Development: Tips for early care and education providers: http://www.acf.hhs.gov/sites/default/files/ecd/508_tips_for_early_care_and_education_providers_april_2013.pdf
- National Institute of Mental Health: Autism spectrum disorder: <http://www.nimh.nih.gov/health/topics/autism-spectrum-disorders-asd/index.shtml>
- Technical Assistance Center on Social Emotional Intervention for Young Children: <http://challengingbehavior.fmhi.usf.edu/>

AUTONOMY

Autonomy means being self-determined, self-governed, and independent. It refers to the characteristics of being one's own person and existing and acting separately from others. An autonomous person makes choices and decisions and is able to speak for himself or herself. The opposite of autonomy is *heteronomy*, which means being governed by someone else. Autonomy does not mean complete freedom to do everything a person might want to do. Instead, it refers to the ability to be able to do things and make decisions that take into account the well-being of all concerned, including the well-being of one's self and the well-being of others. This entry provides information about the development of autonomy during early childhood and gives several theoretical perspectives on the topic. Examples of some typical behaviors exhibited by young children who are in the process of developing autonomy are also provided. These examples include representative behaviors of how young children indicate and express their desire to make their own choices and decisions regarding themselves, their wants, and their activities.

Overview

Independence and autonomy are important developmental tasks during the second year of life. The striving for autonomy and independence is based not only on the infant's social-emotional development of feelings of trust and security but also on the developmental advancements in motor and cognitive skills that occur during this period. For typically developing children, motor skills during the second year usually result in toddlers being able to walk, climb, open, close, pull, push, hold, and drop objects. Toddlers' social-emotional feelings of pride parallel these accomplishments, and they want to practice these skills. They want to do the things they see their family members and others do, which includes wanting to do more things for and by themselves. These behaviors are indications of advancements in social-emotional, cognitive, and motor development that help the child

develop a sense of autonomy and feelings of pride and self-worth. They are not behaviors that should be viewed as “misbehaviors” but rather as behaviors that indicate development is proceeding along a predictable path that leads to ever increasing motor and cognitive competence and healthy social-emotional autonomy.

Developmental Theories Related to Autonomy

The development of autonomy is a distinct stage in the theory of psychosocial development proposed by Erik Erikson. Psychosocial theory includes a series of eight universal, sequential stages of social-emotional development that occur from the beginning of life and continue throughout the human life span into late adulthood. Erikson’s theory proposes that the motivation behind human behavior is social and that the development of a sense of self results from interactions and relationships with others. According to psychosocial theory, the desire to affiliate and be with other people is the impetus behind developmental social-emotional changes that occur across the course of an individual’s life. Because the psychosocial stages are sequential, each stage builds on the social-emotional development of a person’s preceding stage or stages.

Each of the eight psychosocial stages is marked by a sense of struggle or crisis that represents different social, cognitive, and biological needs that occur over the course of the human life span. For each of the psychosocial stages there is a unique development task, crisis, or challenge that represents a turning point in social-emotional development characterized by both vulnerability and potential. Thus, the crisis that occurs at each stage has two possible outcomes, with one of the outcomes providing an opportunity for a resolution of the crisis, healthy developmental change, and increased potential. A lack of resolution of the crisis results in lack of developmental advancement and problems resolving crisis in future stages. A healthy resolution of the crisis at each stage depends on whether or not the family, other people, society, and culture meet the child’s or adult’s stage-related social-emotional needs.

According to Erikson’s theory, the development of autonomy occurs during early childhood between the ages of 1 to 3 years during late infancy and toddlerhood. It is the second stage of the theory and focuses on the social-emotional developmental crisis of autonomy versus shame and doubt. During this stage children experience the opportunity for the development of autonomy and the vulnerability of developing shame and doubt. The second stage builds on the first stage, which occurs from birth to 1 year and focuses on the development of feelings of trust and security. Having developed feelings of security and trust with their caregivers during the first year of life provides a foundation for children to begin to discover a sense of self, their own will, and that their behavior is their own during their second year. When supported by caregivers, children’s developing self-assertion and growing sense of independency potentially leads to autonomy and a positive resolution of this stage. If children are restrained too much, too restricted, or harshly criticized or punished for their self-assertion and striving independence, they may develop a sense of shame and doubt.

Learning to be autonomous requires the ability to self-regulate and to have self-control. These characteristics are important concepts in the constructivist theories of both Jean Piaget and Lev Vygotsky. Both Piaget’s and Vygotsky’s theories acknowledge the importance of self-regulation in the development of the child, but their emphasis was more on trying to understand the role of self-regulation in the learning process. Piaget’s constructivist and moral development theories stress the child’s inner cognitive development that results from direct experiences with the external world that leads to the child’s ability to make decisions that take into account the well-being of all concerned, including the well-being of one’s self as well as that of others.

Vygotsky’s sociocultural theory has significance to the idea of autonomy in that Vygotsky proposes that an individual’s attainment of autonomy requires the political commitment of the community in which a person lives. The idea of being an autonomous individual is a foundational aspect of

how a person understands himself or herself, history, culture, and society. Sociocultural theory proposes that self-regulation includes the planning, guiding, and monitoring of one's own behavior, which are components of the ability to be autonomous. Vygotsky thought that this type of development proceeded from the child's external, social, and cultural world to the inner world of the child's mind; thus, self-regulation was seen as an outcome of both social and individual processes. Self-regulation occurs as a result of the children's social interactions with others.

Vygotsky used the term *private speech* to mean speech that is directed to self. Young children talk out loud to themselves, often repeating rules of behavior and phrases they are learning from others. Vygotsky proposed that this private speech was part of the process of internalization of behaviors that eventually is transformed into inner speech. He saw private speech as the main mechanism a child uses for the internalization of social rules, social expectations, and self-regulation/self-control. According to Vygotsky's theory, private speech enables a child to monitor her or his own behavior based on the interactions the child has had with others and on what she or he has seen others do. This internalization process is the main mechanism by which children develop the ability to self-regulate their behavior.

Another theory that is related to the development of autonomy is self-determination theory. This is a theory of motivation, personality, and development that proposes that there are integrative processes that occur in human development that are relevant to learning and to a person's actions. Intrinsic motivation is an important component of self-determination theory. According to this theory, the environmental-social context can either enhance or diminish intrinsic motivation based on whether or not societal conditions support or thwart a person's need for autonomy, competence, and relatedness. Self-determination theory proposes a connection between self-motivation and self-determination with self-motivation being related to whether or not a child has opportunities to be autonomous and to make choices. Having choices allows a child to feel

that he or she has control or ownership over himself or herself and what he or she does. This process helps the child to develop a sense of responsibility and self-motivation.

Facilitating the Development of Autonomy

Based on the theories just discussed, the ways in which adults understand and respond to toddlers striving to learn how to use their bodies and minds and for independence are critical to the child's development of a sense of autonomy, self-governance, self-control, and self-worth. To facilitate children's feelings of pride and autonomy, it is important to recognize that toddlers are motivated to practice and to do what they are now developmentally capable of doing for themselves. To facilitate development, caregivers can allow toddlers to do those things for themselves that are safe and allow the child practice in making decisions and being independent. This means allowing time for the child to do things at his or her own pace and to accept the results without criticism. Toddlers often want to decide for themselves what they want to eat or what they want to do. Children begin to want to dress themselves, put on and take off their shoes and socks, flush the toilet, and wipe their own noses. Providing choices gives a child the opportunity to make decisions and to practice being autonomous. Allowing toddlers to do things they are capable of doing for themselves helps them to begin to develop self-help skills and to learn to control their muscles as well as their impulses. Being overprotective and overly critical of toddlers' attempts to do things for themselves may result in power struggles between caregivers and children as well as feelings of shame and doubt.

Learning self-control and becoming self-governed are hallmarks of autonomy and are related to the later development of moral autonomy. The guidance and teaching that young children receive during the stage of autonomy versus shame and doubt can facilitate the development of autonomy as well as the development of self-control and self-governance. Guidance strategies

that allow young children to make age-appropriate choices and allow children to do things for themselves that they are developmentally capable of doing help children to develop autonomy as well as self-control. Talking with young children about how the behavior impacts themselves and other people, including how others feel about things that occur, helps children to develop perspective taking, empathy, and an awareness of how their own behavior has consequences on others. The use of rewards and punishments with children can lead to heteronomy, overconformity or doing the “right” thing, and following socially approved rules of behavior only when an authority figure is present to monitor the child’s behavior or when a reward or punishment is likely to occur.

During the toddler period of development, young children who are striving to develop autonomy may become frustrated. There may be many things they want to do but cannot because of health, safety, and/or immature motor or cognitive development. Providing routines and helping children learn to substitute an acceptable behavior or action for one that is not acceptable helps them learn how to get their social-emotional needs met in a healthy way. Teaching young children acceptable behaviors, how to delay gratification, how to calm themselves when they are upset, and how to verbally express their feelings rather than acting them out are strategies that facilitate the development of autonomy and self-control.

Autonomy is the ability to do things for one’s own self and to make choices and decisions that take into account not only the well-being of self but also the well-being of others. Because no one theory best explains all of development, an eclectic

approach has been taken in this entry with brief summaries of several theories that are relevant to the topic of autonomy.

Carla B. Goble

See also Attachment and Stress; Cognitive Developmental Theory; Initiative and Industry; Moral Development; Psychosocial Theory; Trust

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B

BANK STREET

With the expressed mission to improve the education of children and their teachers, Bank Street College of Education provides programs for children from infancy through adolescence as well as a host of graduate programs in education and related fields, including those leading to a master's degree in early childhood education. From the time of its inception, Bank Street has played a major role in shaping the field of early childhood education with a specialized focus on the developmental interaction approach as a way of better understanding the teaching-learning process for young children.

A Brief History of Bank Street

Bank Street was founded in 1916 as the Bureau of Educational Experiments (BEE). Its purpose was not to engage in laboratory experiments but rather to try out instructional strategies and observe their impact on children in school settings in order to better understand how children develop and learn. Drawing on the work of John Dewey, Bank Street's founder, Lucy Sprague Mitchell, and her colleague, Harriet Johnson, became a part of the child study movement that took hold in the early part of the 20th century—a movement that validated the study of children as a scientific endeavor.

Mitchell collaborated with other progressive educators, including Caroline Pratt and Elizabeth

Irwin, in establishing experimental schools in New York City and other locales where teaching practices and their impact on children could be observed firsthand. Over a number of decades, Mitchell, Johnson, and others used observational data to gain insight into the trajectory of development during the early years of life.

Their view of development was broader in scope than those of other researchers of that time. During the early 20th century, there were researchers known as experimentalists who observed children in laboratories in which their behavior was confined to that which was of interest to the observer/experimenter; others aimed to shape children's responses to stimuli into desired outcomes, giving rise to the psychological theory known as behaviorism; others were committed to psychodynamic theory and the importance of recognizing the child's inner emotional life. In contrast, Mitchell's interests went beyond physical, emotional, social, and intellectual development as discrete entities. She and Barbara Biber, a psychologist who joined BEE in 1928, wanted to achieve a deep understanding of the "whole" child—a thinking, feeling, acting being whose needs and interests must be addressed if schools are to effectively support development.

The understanding that development was not a mere process of unfolding but required an interactive engagement with the external world was prescient at a time when the theories of Jean Piaget and Lev Vygotsky had not yet arrived on

American shores. This focus on the interaction between learning and development in all its complexity is in keeping with what is known as developmental interaction, an approach not solely associated with Bank Street, but honed there over decades and applied to programs for both children and adults.

Developmental Interaction

What is developmental interaction? It is an educational process that combined research with practice long before the term *action research* appeared in the professional literature on teacher education. The research methodology employed at Bank Street and its predecessor, BEE, has always called for close observation and recording of children's behavior as they engage in the world around them.

Akin to cognitive developmental theory, the developmental interaction approach presumes that development occurs in an ordered and invariant series of stages aligned with, but not exclusively determined by, chronological age. It honors young children's role in constructing knowledge through their own active involvement in the social and physical world, drawing simultaneously on the interaction of their physical and sensory capacities, their intellect, and their inner emotional state.

In the developmental interaction approach, play is seen as the primary learning mode for young children, lending meaning to the common understanding among early childhood educators that play is children's work. Play affords opportunities to explore and experiment within a safe environment in which children can act and then observe the outcomes of their actions on the physical world and on the people around them. At times the outcomes serve to satisfy children's desires and expectations and at other times the outcomes cause disequilibrium in their current understanding of the world.

In Piagetian terms, play in its purist form occurs when children's actions on the environment are used to express their current understandings. For example, when a child puts her arms out, making motor noises and moving through space, saying

"Airplane fly," she is using her body and voice to represent her sense of what airplanes do. Her actions are satisfying in that they enable her to express her understanding in ways that are both physical and onomatopoeic.

At other times, while engaged in play activities, children may experience disequilibrium when their actions result in outcomes that challenge their existing capacities and understandings of the external world. For example, a child who first works with wooden unit blocks may construct a pile putting them one on top of the other without regard to size or shape. When the tower tumbles, the child may try again but still not immediately be able to build a sturdy tower. Over time and with persistence, he or she comes to understand the properties of this challenging material and can then engage in increasingly deliberate and effective efforts to create structures of greater complexity. For example, in a school where blocks were available to children from age 2 through age 7, a child who began working with blocks at age 2 was observed at age 7 to build a recognizable shoulder-height *Tyrannosaurus rex*.

The developmental interaction approach also aligns with Vygotsky's "zone of proximal development." This concept clarifies the teacher's role in structuring the environment to provide support to children until they are able to successfully engage in a given activity independently and also emphasizes the need for social interactions to foster children's development. In this regard, Bank Street takes children out into the world to learn about the geography and lives of the people in their communities.

Developmental interaction also explicitly affirms the deep connection between cognition and emotion. The inner lives of young children—their fears, joys, anger, motivations, curiosities—are ever-present influences in their efforts to make sense of the external world. Within the developmental interaction framework, the learning environment affords children the opportunity to engage in self-directed exploration and play, providing them with opportunities to represent their thoughts and emotions in ways that enable them to work these through in ways that enhance their development.

The indoor and outdoor spaces in early childhood settings are designed to ensure safety and promote further learning. The equipment, materials, and the daily schedule of activities offered at the beginning of the school year are based on the teacher's knowledge of the typical range of capacities of the particular age group. But even on the very first day of school, the teacher begins an ongoing process of observation in order to come to know each child as an individual with individual capacities, strengths, needs, interests, and temperamental characteristics. Through this ongoing observational process, teachers adapt the physical and social environment—the materials made available, the schedule of activities, and even the room arrangement, the interpersonal approaches to supporting and engaging each child—refining their knowledge of typical development in order to meet the needs of each individual within the context of the group.

Preparing Teachers for Developmental Interaction

How do teachers come to understand and adopt the developmental interaction approach? In 1930, the Bureau of Education moved to Bank Street in Greenwich Village, expanding its nursery school and formalizing a teacher training program that then became known as Bank Street College. Teachers who studied there were immersed in the developmental interaction approach as they worked in Bank Street's nursery, meeting regularly with Mitchell and colleagues to make sense out of their classroom experiences.

To this day, the developmental interaction approach is deliberately enacted in Bank Street's graduate programs in early childhood education. The knowledge and experience needed to employ the developmental interaction approach is covered in the breadth of courses that candidates are required to take, covering content that includes typical development, developmental variations, language development and acquisition with a focus on English language learners, observing and recording, working with families, and early

childhood curriculum with a focus on social studies as its core. In this curriculum course, graduate students go on field trips to study the neighborhood geography and inhabitants and to learn about the value of using malleable natural materials—paint, pencil, wooden blocks, sand, clay, and water—to represent what they know.

Bank Street's graduate-level instruction is also designed to stimulate candidates to explore their preexisting beliefs and feelings about children and the teaching-learning process and how these impinge on their work as teachers. Course instructors model the developmental interaction approach through in-class activities and out-of-class assignments designed to promote active learning at the adult level. Candidates construct knowledge by reflecting on and questioning what they already know and believe. Through interactions with instructors, peers, and children, as well as by reading relevant professional literature, they are empowered to build on and transform their understanding of the teaching-learning process.

All candidates seeking early childhood teacher certification have a clinical experience that is typically two semesters in duration in two or more early childhood settings. Known at Bank Street as supervised fieldwork, this experience offers additional experience with the developmental interaction approach. Each candidate works closely with an advisor who is a member of Bank Street's core faculty. The advisor observes the candidate at least once a month for approximately half a day, meets with the candidate at least twice a month, and facilitates a weekly meeting known as conference group with the group of five to seven candidates for whom each faculty advisor is responsible. The individual meetings are conducted as a dialogue about the children in the class, the classroom curriculum, and the candidate's engagement in the teaching-learning process. Individual meetings at the beginning and end of each supervised fieldwork placement include the cooperating teacher who serves as the clinical mentor to the candidate. Conference group is neither a course nor a seminar but an integral part of supervised fieldwork in which candidates share aspects of their respective

field experiences, problem solve together, and very often reveal feelings that impinge on their work in the classroom, some of which they have carried with them from their own childhoods. In this way they learn firsthand that teaching is a collaborative profession in which there are endless challenges and opportunities to develop further.

Bank Street Today

Because of its expertise in the field of early childhood education, Bank Street was invited to develop one of the model Head Start programs when this national program was launched in the 1960s. It continues to offer a Head Start program as well as an inclusive child care program, the Family Center, which serves children from 6 months to 4 years of age. Bank Street's School for Children serves children from preschool through eighth grade. The developmental interaction approach is enacted in all of these settings.

Bank Street's point of view about how to best educate young children is based on research showing how children construct knowledge through their interactions with the world. In its preparation of generations of teachers and its ongoing professional development offerings, Bank Street continues to promulgate the developmental interaction approach in early childhood classrooms throughout the United States and abroad.

Nancy Gropper

See also Child Development and Early Childhood Education; Cognitive Developmental Theory; Field Experiences; History of Early Childhood Education in the United States; Observational Assessment; Play, Nature of

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BAYLEY SCALES OF INFANT AND TODDLER DEVELOPMENT

The Bayley Scales of Infant and Toddler Development are well-known and oft-used developmental assessments for children from 2 to 42 months of age. The primary use for the scales is to determine developmental delays or problems in very early development and provide information for planning interventions for children who may need it. The assessment was developed by Nancy Bayley; the third edition, in use as of 2015, is based on more than 50 years of research and development. The third edition of the Bayley Scales was published by PsychCorp (Pearson) in 2005 and is referred to as the Bayley-III. The Bayley Scales of Infant Development were first published in 1969. In 1993 the second edition was published, known as the Bayley Scales of Infant Development—Second Edition or BISD-II. Developed in the United States, all three editions have been normed and used internationally.

The Bayley Scales are individually administered assessments; examiners (the test administrators) must have specialized knowledge and training to give and interpret the results of the Bayley. The test is designed to be administered in 30 to 90 minutes, depending on the child's developmental abilities. The Bayley-III has added subscales to the earlier editions. The following subscales are available for the Bayley-III: cognitive, language, motor, social-emotional, and adaptive behavior.

The Bayley-III was developed to provide opportunity to collect data from multiple points of view.

The cognitive, motor, and language scales are administered to the child in an interactive experience by the trained examiner. Caregivers (typically parents or guardians) complete a questionnaire to provide data for the social-emotional and adaptive scales. The Bayley-III is also useful for multidisciplinary assessments because the scales can be administered separately by an assessment team.

Specific Scales

The Cognitive scale includes items that assess sensorimotor development, the child's exploration and manipulation of objects, concept formation, and memory. Types of play are a part of the cognitive assessment, for example, how the child plays with a single object, how the child uses two related objects together (e.g., putting a lid on a pan), and how toddlers and preschoolers use objects for pretend play.

The Language scale focuses on both receptive communication or what the child understands and responds to, and expressive communication, or what the child communicates to others. Preverbal communication is included, as are vocabulary, understanding of simple grammatical structures (e.g., adds an "s" to represent a plural word), and length of the child's utterances.

Both fine and gross motor behaviors are assessed as part of the Motor scale. This scale begins with such basic skills as visual tracking and object grasping and follows along to more complex movements, including locomotion, balance, and motor planning.

The Social-Emotional scale was developed by Stanley Greenspan, a pediatrician well known for his work in infant mental health. This scale includes different aspects of social-emotional development such as self-regulation, engaging others, using emotions in a purposeful manner, and using communication to solve problems.

Caregivers (most likely parents) complete the Adaptive Behavior Assessment. As happens in early development, there is some overlap between the adaptive behaviors assessed and other scales. The Adaptive scale includes assessing communication,

social behaviors, self-care behaviors (including motor behaviors), health and safety behaviors, and some pre-academics.

Administration and Interpretation

Examiners must be trained in the administration and interpretation of the scale. The Bayley-III is a standardized assessment in that it should be administered, scored, and interpreted using the standard, published protocol. A ceiling approach is used for administration; administration of the scale ends once the child has missed five items in a row. This is the ceiling of the child's performance. The ceiling approach limits the child's frustration by limiting the number of unsuccessful items administered; this also decreases the length of time for administration.

The Bayley-III is considered a normative assessment. This means that an individual child's performance on the Bayley is compared to the results of a large group of children, and the individual child's development is ranked in comparison to the group. The results of the assessment are to be used to determine the likelihood the child is exhibiting delayed or atypical development in cognitive, language, motor, social-emotional, and/or adaptive development. The data provided by the Bayley-III provides information that aligns to the requirements of the Individuals with Disabilities Education Act (IDEA) for identifying eligible infants and toddlers under Part C.

Review of the literature indicates that validity studies of the Bayley-III are still being published. A stated concern about the Bayley-III, more specifically the language and cognitive scales, is that it may under-identify children's developmental concerns because children score higher on the third edition than the second. Studies comparing scores on the second and third editions of the test have been published highlighting this concern. The BISD-II had a positive reputation for identifying children's developmental concerns; the Bayley-III has not yet equaled the reputation of its earlier edition. This does not mean the Bayley-III is not used or is not useful. Some recommendations have been made to interpret it more cautiously than the former edition.

Even with the potential concerns stated above, the Bayley Scales of Infant and Toddler Development are still a premier developmental assessment for young children and are widely viewed as an excellent tool to identify developmental concerns of infants, toddlers, and young preschoolers. Early interventionists are likely to find it useful for both identifying developmental concerns and helping families to understand their child's development.

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See also Assessing Children for Disabilities; Developmental Assessment; Developmental Disabilities; Gesell Assessments; Identification of Special Needs; Ounce Scale, The; Reliability and Validity in Child Assessment

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BEHAVIOR DISORDERS

Children with behavior disorders are deemed as having an emotional disturbance (ED) by the federal Individuals with Disabilities Education Act (IDEA), which provides that children and youth with disabilities have access to a free, appropriate public education. The definition and criteria for ED are found at 34 C.F.R. § 300.8(c)(4). ED is described as a condition with

one or more of the following characteristics over a long period of time and to a marked degree that adversely affects a child's educational performance:

An inability to learn that cannot be explained by intellectual, sensory, or health factors.

An inability to build or maintain satisfactory interpersonal relationships with peers and teachers.

Inappropriate types of behavior or feelings under normal circumstances.

A general pervasive mood of unhappiness or depression.

A tendency to develop physical symptoms or fears associated with personal or school problems.

Behavior concerns often originate when a child is in a group setting such as child care or preschool. An individual child's reaction or response to a person or situation is often more easily noted as atypical when same-aged peers are in the same setting. Aggressive behavior is noted when children have opportunities to interact with peers. Biting and hitting are two such behaviors that get attention in preschool settings. In preschool settings, a child is eligible at age 3 for special educational services under the IDEA. Eligibility for special education related to behavioral concerns at preschool age (3 to 5 years) is a challenge for educators because young children are just beginning to learn about appropriate social behavior with peers. To be eligible for free appropriate public education (FAPE) as outlined in IDEA, a child must be diagnosed as fitting into 1 of 13 categories—one of which is ED.

Misalignment between diagnosis and eligibility for educational services continues to be an area of great concern for professionals working with young children as well as for the families of those children. One concern is combining emotional concerns and behavioral concerns together in one condition. Attempts to formally revise and separate emotion and behavior have been unsuccessful. Daniel Hallahan, James Kauffman, and Paige Pullen identified three common elements in the different definitions for emotional behavior disorders: (1) extreme behavior; (2) chronic, ongoing problems; and (3) violation of social cultural expectations. Although these three components are essential when defining emotional and behavioral concerns, they do not provide for a clear view across ages, especially for young children.

Confusion abounds because the diagnosis of an emotional or behavioral concern is required for eligibility for educational services, but teachers do not diagnose; school psychologists or psychologists or psychiatrists from a hospital or from a center or private practice diagnose. Diagnosis of an emotional or behavioral program for a young child is a matter for medical or mental health professionals, and the term *emotional disturbance* is not part of their labeling. Conditions such as oppositional defiant disorder (ODD), conduct disorder, obsessive compulsive disorder (OCD), and anxiety are examples of conditions associated with emotional and behavioral concerns. The manual used for assessment diagnosis, the *Diagnostic and Statistical Manual of Mental Disorders* (DSM), includes many conditions labeled by symptom that are appropriate for children who would also receive educational services under the educational label of ED, but there is a disconnect between the educational field where the symptomatic behavior is often first observed and the psychological/medical arena where the condition is diagnosed and treatment is prescribed.

Families and, less often, teachers serve as a bridge between diagnosis and treatment, especially in the early phase of diagnosis. It is very important for early childhood teachers to understand the diagnostic process families go through in order to understand their stress. They can then communicate with families and professionals about intervention strategies to follow in the classroom to support student success.

The DSM was revised in 2013 (fifth edition) to include more conditions for young children and to use a life span approach to reflect the changes in symptoms and behaviors as a child ages. The DSM-5 defines most childhood conditions that may occur after age 12. This latest edition lists two new disorders and one revision for young children. First, the new disruptive mood dysregulation disorder specifically identifies mood and regulation concerns for young children. One of the criteria states that the onset must occur before 10 years of age. The symptomatic behavior is far more severe than temper tantrums; it includes reoccurring

explosive outbursts that occur three or more times a week for a year.

Second, social communication disorder (SCD) is characterized by persistent difficulty in verbal and nonverbal communication for social—not cognitive—reasons, leading to impairments in creating and maintaining social relationships. Symptoms must be present in early childhood even when the behavior is not recognized until later, when demands for speech and language communication exceed the child's abilities.

Third, DSM-5 revised the criteria for post-traumatic stress disorder (PTSD) to include a subtype for preschool with specific information for children younger than 6 years of age.

Unfortunately, DSM-5 definitions are not very useful when applied to young children. They do not fit well because of the limited options for diagnosis. This latest edition does take a life span approach, and it organizes the conditions to enable recognition of symptoms across ages, but detail and depth are still lacking for diagnosing young children. The IDEA definition of emotionally disturbed children denotes "long period" as part of the definition, but that is often incongruent for young children.

In a recent publication, researchers at Harvard Child Study Center described the important role infancy and early childhood have on the long-term mental health of an individual. The brief starts with a statement that significant mental health problems can and do occur in young children. It goes on to discuss genetic and environmental situations that increase risk. In some cases, the problems in a young child's life have serious consequences for early learning, social competence, and lifelong physical health. Children who lack learning or social interactions early in life, or who are not engaged with others or activities, may suffer emotional disturbance later in life. Children at a very early age can show clear characteristics of anxiety disorders, attention-deficit/hyperactivity disorder, conduct disorder, depression, PTSD, and neurodevelopmental disabilities such as autism. Diagnosis may be difficult because a young child's response to traumatic events or emotional experiences is

very different from the responses of older children and adults.

There is special cause for concern about mental health and behavior in young children with existing high suspension rates in preschool that are racially disproportionate. According to a federal accounting of preschool suspensions, 5,000 preschool children were suspended once in 2011–2012. Both large multicenter child care facilities and preschools and small community programs are under the scrutiny of their paying customers, so that when a child engages in a challenging behavior, such as biting others, administrators may opt for a quick solution such as suspension of that child. The federal report on preschool suspensions also showed a troubling racial disparity: Whereas 18% of the preschool population in 2011–2012 was identified as Black, children of color represented 42% of preschool children suspended once and 48% suspended more than once. The report did not provide reasons for the disparity. One possible solution to the high suspension rate is professional development for preschool teachers, preparing them to improve children's social communication and self-regulation. The area of professional development for preschool teachers is in itself an issue for the fields of early childhood education and early intervention since in many settings, qualifications are far less than those of K–12 teachers. This is widely believed to be a concern, especially when working with children who have special needs.

Interventions

Interventions highlighted in this section are responses to children's challenging behaviors on a continuum based on the severity of the concerns. The teaching pyramid illustrates varying interventions as the level of challenging behaviors rises. This positive behavioral support model has strong empirical support with both individual and group interventions for children with challenging behaviors. Pharmacological intervention is sometimes used in conjunction with the teaching pyramid and positive behavior support model but is managed outside of the school environment.

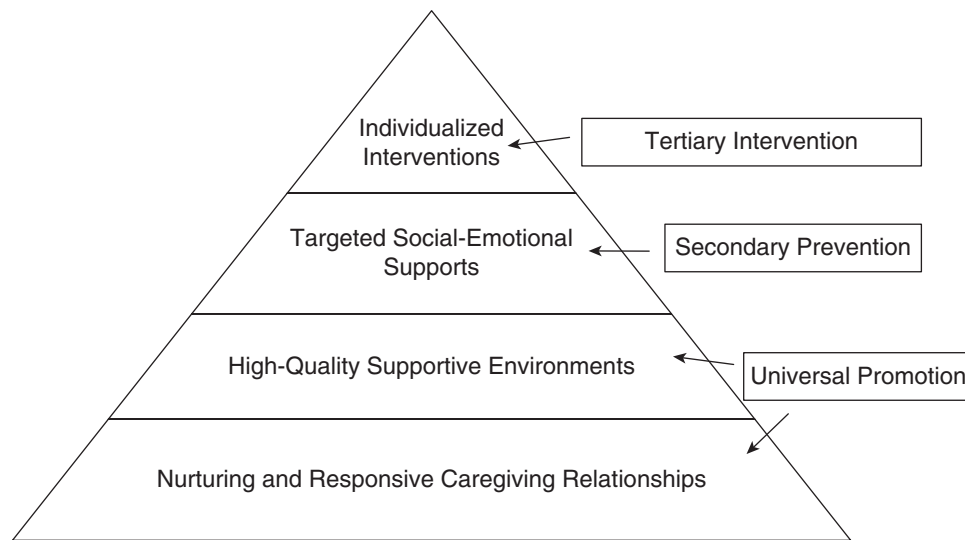
Teaching Pyramid

In much of the literature about behavioral concerns for young children, the term *challenging behaviors* is used, so the focus is on the behavior rather than the child. The body of literature around challenging behaviors begins with a strong emphasis on prevention through knowledgeable preparation of the environment and educators who are responsive to children and as the foundation for social skills needed by young children to succeed in group settings. Not all children know how to share or how to change from one activity to the next. Social skills such as taking turns and transitioning from one activity to the next must be explicitly taught. Mary Louise Hemmeter and Lise Fox have created a framework called the teaching pyramid for teachers to address the social-emotional needs of young children in group settings (see Figure 1). The framework provides information, training, and resources for each level. In this hierarchy, most teachers use information in levels 1 through 3.

Interventions at level 1 of the pyramid are intended to develop and sustain a more effective teaching workforce. This level focuses on the preparation, qualifications, and professional development of teachers and other staff working with young children. An understanding of child development is the basis for level 1 interventions. Knowledge and skill increase teacher competence and confidence and reduces staff turnover.

Level 2 focuses on developing a nurturing, responsive, and supportive environment for children. Teachers learn universal strategies to provide routines and strategies to benefit all children—routines for the start of the day, transitions within the day, and specific routines for play and large group activities. This strategy informs the children and the educators about what to expect throughout the day. In turn, with a more competent responsive staff, the quality of the supportive environment improves. Teachers interact with and support each child so all children can succeed in the environment.

Level 3 of the pyramid targets supports for specific children through social interaction and communication, with a focus on preventing

Figure 1 The Teaching Pyramid Model

Source: The Teaching Pyramid model, p. 135, in Hemmeter, M. L., & Fox, L. (2009). The teaching pyramid: A model for the implementation of classroom practices within a program-wide approach to behavior support. *NHSA Dialog*, 12(2), 133–147. doi:10.1080/15240750902774718

undesired behaviors and replacing them with appropriate ones. In this environment, children learn social skills, and teachers provide supports for success. Teachers use specific interventions to prevent challenging behaviors. In short, children learn social skills and classroom routines with an emphasis on social interaction and communication in each activity throughout the day. Clear expectations are explained, and children thrive in an atmosphere of the classroom that is responsive to all.

The final level of the pyramid, level 4, is for the smallest number of children with the most severe and frequent challenging behaviors. The number is the smallest because with all the other levels from the pyramid in place, the need for more intensive intervention lessens. This level of intervention provides individualized targeted strategies for behaviors of a specific child. Interventions using behavior principles are the most effective. Applied behavior analysis emphasizes the identification of the function of the undesirable behavior in many settings, and then the intervention is designed to decrease the behavior. Specialized strategies using behavioral principles teach children specific behaviors to support the child's success.

Positive Behavior Support Model

Another intervention using principles from applied behavior analysis (ABA) is the positive behavior support model. This model grew from systematic intervention in special education classrooms and applies principles from ABA to the entire school. The model also has levels of intervention based on the need of the child. The primary level emphasizes prevention interventions that can be implemented with all children. Its goal is to reduce new cases of problem behavior. In a particular setting (school, e.g.), it lays out three to five general "rules" phrased in positive language for everyone in the setting. An example is "respect yourself; respect property; respect others." Setting up the preschool classroom with clear, simple rules in positive language is a premise of this approach. Positive reinforcement is a successful strategy to encourage preschool children to repeat a desired behavior. The goal at the secondary level is to reduce current levels of problem behavior with systematic interventions that use behavioral principles. These principles include learning the function, or cause, of the behavior a child is exhibiting. Observers note if a child is trying to escape an undesired activity or if the child is exhibiting

behaviors to gain attention of others. This level prescribes specific interventions designed to teach the student expected behaviors. All students know the expectations and consequences associated with a routine or rule. The last level, the tertiary level, seeks to reduce the frequency and intensity of behavior problems for the few students with ongoing concerns. There are fewer students needing intervention at the tertiary level, and their needs are much more severe. The intervention strategies at the tertiary level are usually individualized and delivered one-to-one.

Pharmacology

Pharmacological treatment is also used with children who have been labeled with ED and/or one of conditions from the DSM-5. Medications are used to manage behaviors, not cure them. They are administered to decrease behaviors such as impulsivity or hyperactivity or obsessive-compulsive actions. The drug prescribed is specific to the condition and behaviors exhibited. These drugs often have side effects such as sleep interference, attention interruption, drowsiness, and irritability. Teachers must be aware of the side effects and best ways to interact with the student when side effects are occurring. Careful monitoring is required by medical professionals to ensure correct dosages.

Kate McKinnon

See also Aggression; Assessing Children for Disabilities; Challenging Behavior; Early Childhood Special Education; Early Intervention; Emotional Development; Self-Regulation; Social-Emotional Competence

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BEHAVIORAL THEORY

As apparent from the name, behavioral theory is the study of behavior. John B. Watson, credited for the development of classical behaviorism, argued for the study of observable, measurable behaviors as a means of identifying why organisms (e.g., humans, animals) engage in certain behaviors. Building on the research of Watson, Ivan Pavlov, Edward Thorndike, and other researchers who advanced the field of behaviorism, B. F. Skinner's seminal 1938 work, *The Behavior of Organisms*, provided details of his research in the 1930s and further described respondent and operant behaviors.

Respondent behaviors are involuntary, similar to a reflex, and are controlled by the stimulus introduced immediately before the behavior (i.e., antecedent). For example, the puff of air (antecedent) during a glaucoma exam elicits a blink (respondent behavior). Operant behaviors are influenced by the stimulus introduced following an occurrence of the behavior (i.e., consequence). For example, during circle-time a child raises her hand and waits to be called on (operant behavior), and the teacher praises the child for her “quiet raised hand” (consequence). Further, operant behaviors that are consistently reinforced following the introduction of a specific stimulus (discriminative stimulus) will be more likely to occur when the stimulus is reintroduced. The discriminative stimulus does not control the behavior but rather “signals” reinforcement is likely to occur. For example, the teacher says, “One, two, three, eyes on me”

(discriminative stimulus), the class responds, “One, two, three, eyes on you” (operant behavior), and the teacher praises the class, “Wonderful, everyone is ready to learn” (consequence).

The identification of operant behaviors supported a major tenet of behavioral theory suggesting learning occurs through repeated interactions with the environment (i.e., environmental stimuli). Specifically, any behavior that is not reflexive, be it academic, social, or challenging behavior, is controlled (i.e., strengthened or weakened) by its consequence. It is important to note *consequence* is typically used to describe delivery of an aversive effect, for example, time-out (e.g., “Those are the consequences”). However, the use of the word *consequence* in the behavioral field means any stimulus (pleasant, aversive, or neutral) that occurs immediately following the behavior.

Key Principles of Behavior

Important discoveries made by Skinner and other prominent behaviorists established key principles of behavior, namely, reinforcement (positive and negative), punishment (type 1 and type 2), and extinction. To understand positive and negative reinforcement, it is important to remember a few key points about word use in the behavioral field. First, the use of positive and negative does not mean *good* and *bad*. As used in behavioral terms, positive means add (+) and negative means remove or avoid (–). Second, the word *reinforcement* refers to future occurrences of the behavior. Specifically, if a behavior is reinforced, the behavior is likely to increase in frequency or maintain over time.

When positive reinforcement occurs, a stimulus (consequence) is added following a behavior, increasing the likelihood the behavior will occur again. For example, a child cleans up the block area (operant behavior) when asked and the teacher praises the child (consequence, positive reinforcement). Then, the next time the teacher asks the child to clean up, the child complies. When negative reinforcement occurs, a stimulus (consequence) is removed or avoided following a behavior, increasing the likelihood the behavior

will occur again. For example, if putting on a seatbelt (operant behavior) allows a person to avoid the seatbelt buzzer (consequence, negative reinforcement), the next time the person gets into a car he or she is more likely to put on his seatbelt to avoid the buzzer. It is important to remember that negative reinforcement is different from punishment. If negative reinforcement occurred, the behavior is likely to increase or remain at the same level of occurrence. Punishment decreases the likelihood behavior will occur again.

Similar to the word *consequence*, *punishment* is typically used by the general population to describe delivery of an aversive stimulus, for example, putting a child in a time-out. As with other behavioral terms, it is important to note that the use of the word *punishment* refers to future occurrences of the behavior. Specifically, if a behavior is punished, the behavior is likely to decrease in frequency and disappear over time. It is important to make this distinction because often the term *punishment* is misused. For example, a strategy might be identified as punishment when it is in fact reinforcing the behavior (e.g., being sent to a time-out when the behavior is occurring to avoid or escape a non-preferred activity).

Type 1 punishment (i.e., positive punishment) occurs when a stimulus immediately following the behavior is added that decreases the frequency of the behavior. For example, a child says “cat” when the teacher holds up a picture of a dog, resulting in laughs from the child’s peers (embarrassing the child). The next time the teacher holds up a picture, the child may not answer. Type 2 punishment (i.e., negative punishment) occurs when a stimulus immediately following the behavior is removed and the behavior decreases. For example, a child is removed from the slide area on the playground for pushing peers in line. The next day the child follows the slide rules and no longer engages in the inappropriate behavior. Extinction, a type 2 punishment strategy, occurs when whatever reinforced the behavior is removed and the behavior decreases and eventually disappears. For example, during circle-time a child calls out and receives teacher attention (i.e., calling out is reinforced by

teacher attention). Extinction of *calling out* would require the teacher to ignore all occurrences of calling out (i.e., calling out is no longer reinforced by teacher attention) and only provide attention when the child is engaging in appropriate behavior (e.g., hand raised and is waiting quietly to be called on).

Shaping and Modeling

All of the key principles described earlier play important roles in shaping behavior and modeling, two commonly used teaching strategies. Shaping occurs when successive approximations (i.e., each action or step closer to the desired behavior) of a behavior are reinforced, which eventually leads to learning the entire skill. For example, hand washing is usually taught in steps, with each step building on the next until the child can complete the entire task. When shaping hand washing, the first step, turning on the water, is reinforced. Once turning on the water is established, the behavior no longer receives reinforcement (extinction). Instead, turning on the water *and* putting a hand under the soap dispenser is reinforced. This process continues with each step until the child can complete the entire task. In shaping, the child's behavior is directly influenced through the use of reinforcement.

Albert Bandura's research demonstrated that learning also could occur through imitating or modeling observed behavior, such as when a child who is not yet reading imitates book reading behaviors after observing his or her parent read a book to him or her before bed (i.e., modeling book reading). Further, observed behavior that is reinforced in the environment (e.g., classroom, home, community) is more likely to be imitated than behavior that is punished.

For example, a teacher uses descriptive praise to acknowledge a child who is cleaning up the block area, "Katie is doing a great job putting her blocks away on the shelf!" After the appropriate model (Katie cleaning up the block area) is praised, Katie's peers start to clean up. One word of caution, just as appropriate models of behavior can be

reinforced and imitated (e.g., sharing, waiting in line), inappropriate models of behavior can be reinforced and imitated as well. For example, when asked to clean up the dramatic play area Rachel yells, "I don't want to!" and walks away from the center; instead of redirecting Rachel back to the task, the teacher cleans up the area and Rachel avoids cleaning up. After the inappropriate model is reinforced, Rachel's peers verbally refuse to clean up and leave their centers untidy.

Applied Behavior Analysis

Grounded in behavioral theory, applied behavior analysis (ABA) extended the work of the behavioral field to applied settings. Prior to the late 1950s behavioral research typically occurred in labs with nonhuman subjects (e.g., rats, pigeons). As the field progressed, behavioral researchers began studying the effects of behavioral strategies used with children and adults. For example, Sydney W. Bijou studied the use of different reinforcement schedules on the response rates of preschool children who were typically developing and children and adults with intellectual disabilities.

In 1968, Donald M. Baer, Montrose M. Wolf, and Todd R. Risley wrote their seminal piece describing the seven defining characteristics of ABA research: *applied*, *behavioral*, *analytic*, *technological*, *conceptually systematic*, *effective*, and *generality*. As Baer and colleagues described, the *applied* in *applied behavior analysis* signifies the importance of identifying meaningful behaviors that enhance a person's overall quality of life, putting added emphasis on the social importance (social validity) of this type of research. The next defining characteristic, *behavioral*, emphasizes the importance of targeting observable measurable behaviors in need of improvement. In addition, data should be collected on the intervention agent (e.g., teacher, interventionist) and data collectors to ensure the intervention is implemented as intended and that data collection measured the actual behavior rather than data collector bias or drift.

The next characteristic, *analytic*, focuses on the demonstrated change in the behavior, specifically, the extent to which the interventionist demonstrates a functional relation between the intervention and the change in behavior. For example, immediately following implementation of an intervention to increase child engagement during circle-time, the child's engagement increases and challenging behaviors decrease. Immediately following removal of the intervention, the child's engagement decreases and challenging behaviors increase. On reintroduction of the intervention, the child's engagement immediately improves, thus suggesting a functional relation between the intervention and favorable changes in child behavior.

Technological emphasizes the importance of detailing each element included in an intervention package to allow for its correct use by others resulting in similar outcomes (i.e., replication). Further, *conceptually systematic* suggests in addition to specific details, the description should include the principle from which the procedure was derived (e.g., shaping, extinction). *Effective* addresses the importance of interventions that produce meaningful changes in the target behavior, adding to their practical value, rather than producing minimal changes that have little social importance.

In addition to meaningful changes, Baer and colleagues emphasized the importance of *generality*, specifically, intervention effects (i.e., behavior change) needed to maintain over time and generalize to other environments, activities, and people, and/or affect changes in other behaviors not targeted by the intervention. For example, a child's use of *requesting* has more of a lasting effect if he or she is able to use the skill outside of the classroom where it was taught, in a variety of settings and activities and with a variety of people.

Conclusion

Behavioral theory and ABA continue to influence practices used in early childhood environments. For example, positive behavioral interventions and supports (PBIS) was developed using many of

the same principles grounded in behavioral theory and the ABA traditions. The pyramid model, a PBIS framework developed by two research/training centers (i.e., Center on the Social and Emotional Foundations for Early Learning [CSEFEL] and Technical Assistance Center on Social Emotional Intervention [TACSEI]) and designed to provide tiered support within early childhood environments, was identified in a 2014 policy statement from the U.S. Department of Health and Human Services and the U.S. Department of Education as a recommended practice for addressing challenging behavior in early childhood environments and as an alternative to child expulsion and suspension. PBIS and other evidence-based practices with roots in behavioral theory continue to benefit young children with and without disabilities, improving classroom behavior (e.g., functional assessment-based intervention) and child learning (e.g., Direct Instruction).

Brenna K. Wood

See also Autism Spectrum Disorder; Behavior Disorders; Challenging Behavior; Direct Instruction

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Bias

Bias in early childhood education occurs when adults or children believe and act on the idea that those of a different gender, socioeconomic status, religion, race, ethnicity, or other intrinsic characteristic is beneath them. Individuals who act on their biases often demonstrate a lack of respect or even antagonism through their interactions with individuals with whom they have a bias. Bias can be embodied in concrete actions and in thoughts and tendencies that underlie those actions. This entry examines characteristics that are associated with the most profound biases.

Types of Bias

Racial/Ethnic Bias

The most obvious and well-known bias is related to one's views and interactions with others, children or adults, as they relate to race and ethnicity. From the choice of the curriculum used in the classroom, to the teaching approach used by the teacher, to the preference for a certain type of classroom management, racial and ethnic bias can dictate all components of an early childhood classroom and determine a given child's outcomes simply based on whether or not the classroom components accommodate diverse children and families.

Gender Bias

When children or adults interact with others based only on whether they are male or female, gender bias exists. Unlike racial/ethnic bias, gender bias can be very hard to identify and, due to that subtlety, is thought of as a hidden bias. In some ways, gender bias is expected. During the early childhood years, the process of gender identity is playing out and many children behave as society expects them to, girls choosing other girls as friends and boys choosing other boys as friends. But, traditional views of girls and boys limit their interests and threaten to restrict their abilities. Children who do not conform to gender expectation in biased environments may be harmed because they lack a sense of belonging.

During the 1960s and 1970s, the women's movement spotlighted the obligation for society to nurture girls with a more equitable approach when compared to boys. Over recent years, these beliefs, along with implementation of federal laws, state laws, and social service programs, have allowed society as a whole to hold a more egalitarian concept in the education of girls and boys. Obvious stereotypical attitudes, actions, and decisions are not as common as they were 50 years ago. However, private bias, occurring away from public scrutiny that is suspected, rather than exposed, in early childhood education is more prevalent in today's profession. Though traditional gender bias has been focused on girls and women, males, both children and early childhood teachers, also face bias. Much of teachers' gender bias is unconscious, making those views and habits all the more difficult to modify.

Cultural and Language Bias

To understand cultural and language bias, one view is that they are more effectively considered together, rather than separately. When individuals are treated unfairly based on their native language and holidays and rituals that they celebrate, then cultural and language bias is present.

Curricular materials have often been criticized as being biased against children who are from the non-majority culture or who are English language learners (ELLs). For example, some materials utilize an overwhelmingly masculine tone in their use of pronouns and in depicting ideas. For patriarchal cultures (where men are the clear voices of authority), this may not be offensive; however, in cultures where families share more leadership across generations, this is an inaccurate and uncomfortable way to understand a family as a community. Further curricular bias can occur when materials speak of sports, pop culture, or environments that give children who are familiar with those concepts an advantage in understanding in contrast to those students who have not been exposed to such ideas. When curricular materials are presented as English-only learning experiences, children from families where a different home language is spoken may be

disoriented and feel as though their language (and thus a very important part of their culture) is diminished compared to English. Teachers can lessen bias in curricula by using an anti-bias approach that emphasizes deliberate cultural infusion, respecting and honoring differences as well as increasing positive interactions among all children and their family members to form a multicultural and multilingual class community.

Religious Bias

When adults in an early childhood education environment indicate that a belief, or preference not to believe in a higher being, dictates inclusive or exclusive treatment of children, religious bias exists. This particular bias can cut across cultural and ethnic biases when they are not as readily apparent. For example, a female Muslim teacher may not favor girls or boys, but she may have richer conversations with one boy more often than other children in her classroom because that child, too, comes from a Muslim family (unlike the other children in her classroom). Teachers and children alike must understand that there is a broad diversity of religious beliefs and that these beliefs can highly influence how children and early childhood professionals behave.

Because religious beliefs are often tightly aligned with moral and ethical beliefs, schools and teachers must carefully balance the amount of religious influence that exists in light of how much emphasis is given by the community it serves. Religious bias may be lessened when early childhood teachers are aware of the diverse religious beliefs within a given educational community. Curricular materials are often not specifically related to faith traditions; however, focusing on multiple perspectives that intensify similarities among people and communities may help to decrease bias in regard to religion in early education settings.

Bias Against Children With Exceptional Needs

A long history exists in regard to how children are treated based on whether they have a preexisting physical, cognitive, language, social, or emotional

impediment or enhancement. With contemporary policies in effect, such as the Individuals with Disabilities Education Act (IDEA) and the Americans with Disabilities Act (ADA), much inhumane treatment from the past has been discontinued and is almost unthinkable. Still, bias against children with disabilities exists because education professionals are unprepared to identify, effectively teach, and advocate for children and their particular needs. It is important to note that children who are gifted and talented are often overlooked as having special needs. Also, some children are identified as both gifted and having a disability or multiple disabilities.

To combat such bias, teachers are encouraged to take a more positive approach to emphasize children with special needs as part of the learning community. With sensitive teachers, children are able to understand that accommodations and adaptations are provided so that all children are able to learn in the best way possible. Such teachers avoid putting emphasis on a child's disability, preferring to place energy on positive student-teacher relationships. Generic labels are not used in talking about the children, and teachers make an effort to expose children to people with disabilities who are active, successful contributors to their communities.

How Early Childhood Teachers Can Reduce Bias in Their Practice

Proactive practical approaches that emphasize diversity, community, and unity more effectively reduce narrow thinking, lack of exposure, distrust in differences, and isolation that all have the possibility of perpetuating bias. Teachers who support children to think critically and deliberately about the meaning of prejudice and discrimination will assist them to find answers to their questions. When children have opportunities to engage in critical thinking, they are more likely to realize what is considered fair, just, hurtful, and hateful.

When children have questions about others, teachers need to provide reflective responses or help them to find answers. Engaging children with

one another about topics that adults see as sensitive may actually help children to understand the existence of differences as the positive phenomenon that it is. As children mature, there are ideas about differences that puzzle them. Their comments and questions may seem offensive to an adult, but their points are often a reflection of their levels of understanding. When teachers respond to children's misunderstanding or curiosity, children have opportunities to increase understanding of diversity and decrease prejudicial thinking. When teachers do not respond, children often take that to mean that it is not proper to talk about differences or that they have done something inappropriate. Teachers unsure of how to answer tough questions might say, "I don't know, let's find the answer together." It opens up an opportunity for both to learn something new about bias, diversity, prejudice, and discrimination.

When children are talking about bias and diversity issues, teachers must make sure to pay careful attention to what they are saying. For clarification, the teacher may want to ask some questions so that the child's perspective is clearly understood before responding. It also helps the teacher to detect hidden questions: It is important to truly know what ideas a child already knows and what the child is really asking.

When planning and implementing experiences and dialogue around bias, teachers must keep in mind the child's age and personality. Many children are not so much interested in the fact that people are different but more about why they are different. They want to know what "being different" means and what those differences have to do with them. Teachers should not ignore their developmentally appropriate curiosity because these questions and answers help them to gather information about their own personal identity and the negative impact that hurtful comments have on everyone.

Nonverbal children can be nurtured to have some understanding of bias. Children who do not speak but are exposed to visual cues and experiences are able to collect sensory input on bias. Allowing a child to touch his hair and then touch his teacher's hair or allowing a child to look in the

mirror and compare her blue eyes to her teacher's brown eyes provides an opportunity for the child to consider diversity and begin his or her thought process about bias and diversity.

Few techniques used by early childhood teachers are more powerful in combating bias in a classroom than modeling the type of behaviors and perspectives that are desired for children to adopt. Teachers must carefully observe those situations in the classroom that can readily encourage bias or deflect a child's curiosity for engaging with a diverse group of children. Books, dolls, toys, and music in the classroom that reflect diversity create a multicultural atmosphere for children.

Because children are growing and learning, teachers should not be surprised when they make comments that appear to be racist or biased in some way. What teachers should not do is ignore them without teaching proactive behavior. For example, calling other children names or saying hurtful things to others about their gender, culture, language, religion, race, or ethnicity will not be permitted. Coupled with helping children to develop empathy for all others, each time teachers intercede to remind children that we must all respect one another, they teach children how unacceptable comments like these are. Conversely, each time teachers ignore such name-calling without stepping in (sometimes because the teacher is uncomfortable with the issue), it implicitly tells children that behavior is condoned and they may continue it more openly and with greater intensity.

Proximity and interactional opportunities can do much to reduce bias in the classroom. Teachers should create ways for children to talk to, work with, and play with other children who are different from them. Even if children do not become friends through these concrete interactions, mutual respect will more readily emerge, and respect works directly against the existence of bias.

A major way for bias to take root in an early childhood classroom is through ignorance and unawareness of family differences. Consequently, early childhood teachers should make many efforts to invite their children's families into their classrooms to share songs, traditions, customs, dances,

food, stories, clothes, and holidays. Also, opportunities for families to get to know one another may decrease possibilities that children will experience biased perspectives in their homes. Children soon discover that all families, including their own, have a rich array of cultural representation in their homes and that all of them are valuable.

Reginald Harrison Williams

See also Anti-Bias Education, Components of; Anti-Bias Education Theory; Black Boys, Early Childhood Education and; Cultural Diversity; Development of Prejudice; Diversity in Early Childhood Education; Early Childhood Special Education; Ethnic Differences and Families; Gender Diversity; Language Diversity; Religion and Families

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BILINGUAL FAMILIES

Bilingual families are complex and multifaceted. Bilingualism—the ability to speak, read, and/or write two or more languages—is not unidimensional. Also, the term *family* is complex in its membership. Bilingual families can look and act in many ways and have a wide range of language abilities and experiences within. This entry will unpack some of the different types of bilingual families, home-based language acquisition environments and situations, and the role of community and school in bilingual families' choices.

According to the 2010 U.S. Census, nearly 20% of children under the age of 5 in the United States live in a household in which no one older than 13

speaks English as a native language. However, this statistic marks only one type of bilingual family out of the many different types that exist. The common binding element among them is that at least one member of the family speaks more than one language relatively fluently.

Family dynamics, roles, norms, and values associated with each language shape how that language is used and developed. Therefore, one language may be favored over another in situations that demand disciplining a child about schoolwork, or languages may be switched from the favored language between a mother and a child when in front of the father, who is not a native speaker of the favored language.

Typologies of Bilingual Families

To consider the different types of bilingual families, we begin by examining the types of bilingualism of individual members of the family unit. Individuals can be bilingual as defined by their receptive language skills—that is, they are able to understand more than one language when it is spoken to them. Or they may be bilingual as defined by their productive language skills—that is, they are able to speak more than one language. A bilingual person may be able to read and/or write in more than one language and thus be biliterate. Additionally, receptive, productive, and literate bilingualism are all on a continuum of proficiency. A bilingual person may produce native-like spoken Spanish but be unable to read or write Spanish. Or a bilingual person may be able to read university-level Spanish texts, but unable to write Spanish at the same level. The three dimensions of production, reception, and literacy affect the type of bilingualism produced in families.

Another way of categorizing bilingual families regards the timing of language acquisition. Families that expose their children to two languages before 11 months of age create *simultaneous bilinguals*. A simultaneous bilingual child may come from a family where both languages are spoken in the home or where a caretaker speaks another language to the child. Families that

expose their children to a second language after the age of 11 months may create *sequential bilinguals*. The language environment of the home may change by the introduction of a new bilingual member, moving to a different community, or sending the child to day care or school where there is another language spoken.

Bilingual family typologies also depend on the type of bilingualism practiced by the immediate family. A family unit consisting of parents and their children may make a conscious or unconscious decision to use multiple languages or to share a nondominant language. These choices are often pragmatically based on the economic, educational, and social influences on the family unit. For example, it is possible that one or both parents speak Spanish and English; however, the children may only speak English because it is the dominant language of the environment.

Developing a Bilingual Family

Parents in a bilingual (or aspiring bilingual) family may use one of the following types of language acquisition paradigms for the child:

One Parent, One Language. In a two-parent family, each parent speaks one language to the child. For example, one parent may speak Spanish to the children and the other parent may speak English to the children.

One Parent, Two Languages. In a two-parent or one-parent family, one of the parents speaks two languages to the children. For example, the father may speak Spanish and English to the children. Often the context may influence which language the father chooses to speak. He may speak English at the dinner table when talking about the day; however, he may speak Spanish when reading a bedtime story or discussing soccer with his child.

Two Parents, Two Languages. In a two-parent family, both parents speak two languages to their children. For example, both parents speak Spanish and English to the children depending on the context.

At the dinner table or in the home they may speak Spanish to each other; however, when the family is outside the home, the parents may speak English to the children.

The type of language acquisition paradigms are fluid: The strategies may switch from situation to situation and are likely to evolve over time. Therefore, it is not rare to find two siblings with different language skills, due at least in part to switches in the language acquisition paradigm.

In addition to the immediate family, extended family members also have an important influence. Thus, the family unit may include members such as grandparents or non-relative caregivers who are bilingual. Passing bilingualism on to children is often governed by family structure, modes of caregiving, and ideas about child care. Who speaks what to whom and when helps determine how bilingualism is passed from older family members to a younger family member, from parents to children, or from grandparents to children. Also of importance is how the different languages are used to get the work of family done.

The bilingual family member's role, identity, and immediacy will directly influence the exposure of other members, such as young children, to multiple languages. If a Polish-speaking grandmother lives with and is the primary caretaker of her grandchildren and speaks Polish with them, the children will learn to communicate in Polish. This could be so even if the parents do not speak Polish, because when they were growing up, English was the only language spoken in the home by their parents (a generational jump).

Person-to-person communication in a family unit is the primary means of language learning and acquisition. Research has shown that young children do not learn a second language, or even a first language, through interaction with multimedia, television, or computers alone. Meaningful, interactive, and linguistically rich communications with people are critical to developing more than one language in early childhood. Families often provide that support.

Bilingual abilities within a family unit may be different for different family members. Children will learn to speak a language based on their exposure

to the language and the child's perception of the language as a meaning-making tool.

Bilingual Practice

Very young children associate a specific language as a way to communicate with a specific person in their lives or a specific context. For example, a 2-year-old would believe, "This is how I communicate with Grandma" while an older child would understand, "I use Spanish to communicate with Grandma and English to communicate with Mommy." Young children recognize and distinguish between two languages and can accurately code-switch (i.e., change from one language to another) in conversation. Code-switching is developmentally appropriate for young children as they learn to speak two languages, and it is a normal practice in bilingual families.

Bilingual families may code-switch for many reasons, for example, to emphasize a word or idea, to repeat a word or phrase for understanding, to interject into an established conversation, to create social distance or create boundaries, to exclude others from a conversation, to connect a conversation to a previous conversation, or to create a special bond with the other person. (For further explanation, please see Baker, 2006, p. 54.)

Young bilingual children are quite flexible in their communicative strategies. Children will usually elect to communicate in the adult's preferred language. For example, in bilingual families, a child may observe a bilingual parent speaking English. Using this information the child may decide to communicate with the parent in English, even if the parent speaks to the child in Spanish.

For many families, bilingualism is used as a marker of membership in a community or family. The language used at home or for family-based activities is part of the family's identity. It is through the family language that the family supplies funds of knowledge or family norms, values, and beliefs.

Being bilingual in early childhood is not magical but takes a lot of hard work and planning. Oral language development in early childhood is closely associated with reading and writing success in elementary school. Although the language development

of bilingual children is similar to that of monolingual children, it is not the same. There is no connection between language or cognitive delays and bilingualism. Bilingual children have many cognitive, social, and linguistic advantages over monolingual children.

The language development of each bilingual child differs based on his or her family language environment. The family language environment will be uniquely reflected in a child's language proficiency, vocabulary, phonology, and syntax. When and how a child is exposed to two languages in the home will affect how they learn a new language in school. For example, if a father speaks Spanish to the child but he is not a primary caretaker or does not use Spanish frequently and in meaningful ways with the child, the child's Spanish language development will reflect the quality and quantity of interactions with the father. Because each family's language use and environment is unique, understanding the quality and quantity of each language is important in understanding how a young child's bilingualism develops.

To understand the whole child and his or her educational strengths and needs, we need to carefully consider the many components of family bilingualism.

Sara Michael-Luna

See also Dual Language Learners; Dual Language Learners, Strategies for; Dual Language Learners and Critical Thinking Strategies; Dual Language Learners and the Development of Self-Regulation

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BIOECOLOGICAL THEORY

Bioecological theory, developed by Urie Bronfenbrenner, consists of a complex system integrating four fundamental components (process, person, context, and time) involved in the course of human development. This entry briefly summarizes the three phases in the development of bioecological theory and presents some of its principal concepts. It focuses on the importance of proximal processes in early childhood, emphasizing the conditions under which they can be predictive of good developmental outcomes for children. It also points out the theory's importance for public policies.

A Brief History of Bioecological Theory and Its Main Concepts

Toward the end of the 20th century, the scientific community was introduced to the final and most current version of bioecological theory. Although some researchers believe that Bronfenbrenner's

main contribution was his book *The Ecology of Human Development: Experiments by Nature and Design*, published in 1979, and that his research focused on the contexts in which people live, this was not what the author himself thought. Having published this book he continued to revise his thinking until the complete version of the theory was published in a chapter written with Pamela Morris for the *Handbook of Child Psychology* in 1998, and republished, with minor changes, in the next edition of the handbook, in 2006.

During its lengthy development, the theory encompassed three clear phases (1973 to 1979, 1980 to 1993, and 1993 to 2006) and was never simply a theory about contexts and their interconnections. In the first phase, Bronfenbrenner sought to understand the ecology of human development. That is, he wanted to know how persons were influenced by the changes occurring in their environments and how they themselves changed their environments. In 1975 he thus described in some detail ecological contexts and defined development as “a function of interaction between the developing organism and the enduring environments or contexts in which it lives out its life” (Bronfenbrenner, 1975, p. 439).

During the 1970s, Bronfenbrenner criticized how developmental psychology was conducted at the time and the limited contribution of its findings for public policy. A decade later, he analyzed the various theoretical models then in mode to explain human development. The description of these theoretical models, and his plea for greater use of models that included an assessment of process, formed the basis of his writings during the second phase and furnished the base on which he constructed the final version of his theory.

The meaning of the word *process*, ever-present in Bronfenbrenner's writings since the early 1970s, changed considerably over the course of the theory's development. Earlier understood as the ways in which the organism affected and was affected by its environment, and then treated as the mediating link between some aspect of the context and an outcome of interest, it took on a very specific meaning from 1993 onward.

In the final phase, proximal processes were considered the major and greatest influence on a person's development, the main concept of bioecological theory, and Bronfenbrenner and Morris defined them as "processes of progressively more complex reciprocal interaction between an active evolving biopsychological human organism and the persons, objects, and symbols in its immediate environment" (Bronfenbrenner & Morris, 2006, p. 797). Proximal processes are the types of everyday activities and interactions in which developing individuals are typically involved. Bronfenbrenner mentioned peer-peer interaction and reading with adults as examples. He also argued that proximal processes are influenced by the characteristics (a) of the developing person and those interacting with him or her, (b) of the contexts (both local and distant) in which the developing person is situated, and (c) of the time during which the person is developing. The integration of proximal processes, person characteristics, contexts, and time (PPCT) thus form the operational model of Bronfenbrenner's theory.

Bronfenbrenner considered person characteristics not only to be the product of human development but also its producer, thanks to their ability to instigate proximal processes. He classified these characteristics as force, resource, and demand and noted that each can be generative or disruptive to proximal processes and thus development. A child who comes to school motivated to read (force), has had plenty of past reading experiences (resource), and who looks like he wants to read (demand) will influence, positively, reading with his teacher. Another child, who thinks that books are boring, perhaps because of her past experiences with them, and signals her dislike of reading will also influence proximal processes, although in a disruptive way. The teacher's person characteristics are equally important; a teacher who is motivated to encourage all children to have a love of reading, who has experience with children who come to school uninterested in reading, and who signals her willingness to help those unwilling children will help to create generative proximal processes far more than will another teacher who

is less motivated, has less experience, and signals her exasperation with children who appear to lack interest in reading.

From the 1970s onward, Bronfenbrenner categorized context as four types (microsystem, mesosystem, exosystem, and macrosystem), but the microsystem (the context in which developing individuals are situated) became more significant in the third phase, for it is here that proximal processes occur. Given that development happens in more than one microsystem, Bronfenbrenner argued that it makes sense to study the relation between proximal processes taking place in different microsystems—a mesosystem. Contexts at a broader level also influence development, albeit indirectly. Bronfenbrenner characterized the exosystem as a relation between two or more microsystems, only one of which includes the developing individual under consideration. The prototypical example of an exosystem is a parent's workplace, if her child is the developing individual of interest. An example of an exosystem effect is when a mother's problems at work cause her to be irritable with her child at home. The macrosystem, for its part, consists of the culture-wide values, ideologies, and beliefs that influence development by their effects on the behavioral standards displayed in the microsystems.

The final property of the PPCT model is time. Even in the 1970s the theory was developmental, but through much of the 1980s Bronfenbrenner made this fact, and the importance of time at different levels (the need for longitudinal research and studies taking into account the passage of historical time), increasingly explicit. In the third and final phase of the theory's development, time was classified as microtime (continuities and discontinuities in interactions occurring during proximal processes), mesotime (how often these interactions occur over weeks or months), and macrotime (events occurring in the society either currently or in earlier generations). Each of these is likely to impact proximal processes and therefore developmental outcomes.

Bronfenbrenner's definition of human development also broadened over time. In bioecological

theory, development is defined as “the phenomenon of continuity and change in the biopsychological characteristics of human beings, both as individuals and as groups. The phenomenon extends over the life course, across successive generations, and through historical time, both past and future” (Bronfenbrenner, 2001, p. 6964).

Proximal Processes in Early Childhood

The family is the primary context where most children first experience proximal processes. From their first days of life, they need their parents' attention and time for development to proceed optimally. The earliest proximal processes have to do with feeding, changing, cleaning, and social exchanges, all of which will be influenced by the baby's early temperament (is he calm and easily soothed or fussy and resists being held?), by the mother's characteristics (does she have previous experience with babies, is she stressed because of lack of sleep or worried about not having employment, etc.), and by the context in which those interactions are happening (in a hospital because the baby was born premature, at home in pleasant surroundings, or in a setting that is totally chaotic).

Providing more detail about the manner in which proximal processes impact children's development, Bronfenbrenner stated that they need (a) to relate to one or more people who are committed to their well-being and with whom they develop a strong and mutual attachment; (b) to internalize the activities and affective feelings so as to be motivated and interested in engaging in new activities in their setting; and (c) to have a family environment in which there are persons other than the parents or caregivers who reinforce, encourage, and support the dyadic interactions within the setting.

Bronfenbrenner discussed the role of “a third party” in bioecological theory, much as he had referred to a “second-order effect” in the first phase of his theory, calling attention to the existence of systems of relationships. Each member of a family influences each of the others, particularly when taking on a new role, or going through an

ecological transition, or simply by becoming more stressed or less absent. He thus characterized proximal processes as involving a complex system of social relationships.

Subsequently, children are likely to broaden their experience of contexts, frequenting other settings and expanding their relations with other people. The various microsystems in which children actively participate characterize their mesosystem. Grandparents' house, preschool, and the peer group come to be settings in which different types of proximal processes may occur. The ways in which children are accustomed to acting and interacting with others at home may well be different in each of these other settings. Consider an only child who spends most time at home with a parent or grandmother, and is used to the proximal processes established there, who then is placed in a preschool setting with adults who have different ways of organizing interactions and with peers with whom other proximal processes are established. These different contexts function as a system, and the greater the capacity is of one context to influence proximal processes in other spaces, the more important it is for children's development.

The success of relationships established in each new space will depend, to a large extent, on the quality and the depth of relationships experienced in the family, children's first microsystem. Their initial relationships do not simply provide them with the content of individual growth (not just for the children but also for the adults with whom they relate) but also the wherewithal to foment new relationships and new positive outcomes in their development. The resulting experiences of relationships with their parents or other early caregivers therefore provoke a cascading effect, providing the basis for future relationships, among other things, because they are capable of actualizing children's individual characteristics necessary to start new relationships, provide the cognitive and emotional capabilities to distinguish among different settings, and provide positive models of social interaction.

“Third party” influences, mentioned earlier, can also carry across contexts. Glen Palm and Jay

Fagan studied parents' participation in the school life of their children enrolled in a Head Start program and found that some mothers (the third party in this instance) negatively influenced fathers' engagement with their children in school. The authors found that even fathers who were highly involved with their children at home did not participate in the program and that the mothers discouraged the fathers' participation. The mothers viewed such participation as not part of their traditional social values (a gender-based division of labor) and thereby hampered fathers' engagement in school activities with their children.

Bronfenbrenner's Contribution to Public Policy Related to Children and the Current Impact of His Theory

Bronfenbrenner played an important role proposing and evaluating public policy in the United States, writing papers about the causes of youth alienation and the poor consequences of treating families in poverty as having "deficits." As a youth, he had already seen how policies for institutions for people with mental health problems could help or hinder their development, and he firmly believed that family policies more common in parts of Europe should be adopted in the United States. He thought that state intervention, with its power to formulate, implement, and manage social programs, offered children and adolescents the opportunity to change the course of their development.

It was this belief that led Bronfenbrenner to be highly influential in the creation of one of the most important social programs for children of poor families in the United States—Head Start. He argued before the U.S. Congress and President Lyndon B. Johnson that children were influenced not only by parents but also by the community and state, and that the United States needed to create a program that would give poor children the opportunity to start their school life from a stronger position.

Bronfenbrenner's theory and his example of fighting for better conditions for children continue to motivate researchers and those interested in public policy. Bioecological theory has become an

important reference for studies in fields such as psychology, public health, social work, and education. His propositions regarding the necessity to take seriously the everyday activities and interactions in which children engage, and how these activities are mutually influenced both by individual characteristics and the multiple contexts in which children are raised, provide strong theoretical support for their study. As such, bioecological theory has permitted, among other things, a broadening of its theoretical concepts, a rethinking of research methodology, and the proposing of interventions for the greater protection of vulnerable individuals and families.

Another positive aspect that his theory occasioned was the closer link of science with the daily lives of people, primarily of children and adolescents. Bronfenbrenner's hope that science could bring real benefits to people's lives was what motivated his entire career.

*Edinete Maria Rosa and
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See also Child Development and Early Childhood Education; Cognitive Developmental Theory; Determinants of Child Development; Emotional Development; Parenting Effects on Child Development; Social-Emotional Development

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BLACK BOYS, EARLY CHILDHOOD EDUCATION AND

Statistics continue to show that, overall, Black boys are faring worse than their peers in education, social, and economic domains. Regardless of socioeconomic factors, the achievement gap between Black children and their White peers emerges soon after birth and continues throughout childhood.

There are more than 40 million children under age 10 in the United States, approximately 3.4 million of whom are Black boys, according to the 2010 U.S. Census. (In this entry, *Black* is used interchangeably with *African American* to be inclusive of children from the African diaspora.) Many of these Black boys are struggling and falling behind their peers in social, academic, and, ultimately, economic progress. In fact, Yumiko Aratani, Vanessa Wight, and Janice Cooper in their 2011 National Center for Children in Poverty report show the achievement gap between Black children and their White peers appears as early as 9 months, continues throughout childhood and beyond, and exists independent of socioeconomic factors. The Black–White gap is further exacerbated by the relationship between race/ethnicity and such other sociodemographic factors as family income and structure, maternal education, and teen parenting—each of which seems to impact Black boys more severely than other racial groups.

In the first five years of life, Black boys compared to White children are more likely to live in poverty, have less educated and more depressed mothers, and live in single female-headed households. Based

on the 2010 U.S. Census, more than 40% of Black boys under the age of 5 live in households below poverty compared to 15% of White boys. Other risk factors potentially associated with the early gap between Black boys and their peers include the high likelihood of their being born at low weight and prematurity, a lack of access to health services and nutritious food, and high exposure to violence inside and outside the home.

These facts are in sharp contrast to research that provides extensive evidence concerning the importance of the early years for children's long-term outcomes. Evidence shows that children who attend high-quality (i.e., intellectually stimulating and enriching environments that include interactions with sensitive and nurturing educators) early care and education programs (ECE), especially those from poor households, are likely to benefit from these high-quality early learning experiences. However, these important benefits of early childhood do not translate to a reduction or eradication of the achievement gap between Black and White children. Studies show that although Black children are likely to attend ECE programs, those programs are less likely to be of high quality, thus potentially contributing to the "gap." In other words, Black children compared to their White peers are likely to attend programs with less well-educated teachers, poorer physical environmental quality, weaker teacher-child interactions, and poorer instructional quality. While many questions are still outstanding regarding how best to support the development and learning of young Black boys in ECE programs, additional questions remain about the cultural and gender relevancy of ECE programs.

Cultural and Gender Mismatch Between ECE Teachers and Black Males

The ECE workforce is comprised predominantly of White females. Although the gender and race/ethnicity of an ECE teacher do not mean that that individual is unable to provide culturally rich, intellectually stimulating, and responsive instruction to and interactions with Black males, some

studies indicate that the cultural mismatch between teachers and subgroups of children may contribute to the poor quality of care and education that Black boys are likely to experience.

Given the limited number of Black male teachers, Black boys are less likely to be exposed to academically oriented adult male role models. This also likely results in ECE programs being less boy-friendly because of the programs' focus on early verbal mastery, fluency, and fine motor skills rather than gross motor movement and flexible language use. As James Earl Davis (2003) has noted:

One reason commonly mentioned for the disengagement, alienation, and poor academic performance of Black males is that they perceive most educational activities as feminine and irrelevant to their masculine identity and development. Furthermore, it is also believed that schools, specifically teachers, impose a feminine culture on males that induces oppositional behaviors. (p. 519)

Thus, there is a need for a deeper examination of how the structure (including staffing patterns), processes of learning (i.e., curriculum), and ways of learning (gross versus fine motor, indoor versus outdoor learning) may inhibit the optimal learning of Black boys.

Culturally Relevant Pedagogy and Practices in ECE

Black males are shaped by their "rich cultural perspectives that are rooted in early experiences with their families and communities" (Day, 2006, p. 97), but these cultural assets are rarely recognized or incorporated in ECE programs to support Black boys' excellence. However, there is limited research on the impact of culture on children's development and learning. This is especially the case in addressing whether high-quality ECE means the same thing for all children, especially Black boys. There is a particular need to understand the intersection between culture and socioeconomic status, especially in light of the environmental risk factors Black boys are likely to

experience as a result of structural and historical racism. Meanwhile, studies focused on older children demonstrate that culturally responsive pedagogy is associated with better academic outcomes for minority children.

Although limited, some studies focused on preschool children show that preschool programs that incorporate an Afrocentric perspective are associated with better cognitive outcomes (e.g., Hale-Benson, 1990). This suggests that in the early years when children are inextricably intertwined with their family and cultural background, ECE programs should seek to ensure that they incorporate culturally responsive instruction that supports Black boys' culture and gender identity, subsequently establishing a strong foundation for learning and developing.

Thus, while studies show the value of high-quality ECE programs for supporting children's development, questions still remain about aspects of ECE that are particularly beneficial for promoting excellence in Black boys. Research is needed regarding (a) the importance of Black educators in ECE, particularly Black males; (b) impact of culturally relevant pedagogy and practices in ECE settings; and (c) cultural relevance, meaning, and impact of current definitions of "high-quality" ECE.

Iheoma U. Iruka

See also Anti-Bias Education, Components of; Anti-Bias Education Theory; Bias; Ethnic and Racial Identity Development; Ethnic Differences and Families

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BLENDING FAMILIES

Between 1960 and 2010, the percentage of children living in families with their married biological parents dropped from 85% to 69%. Children today live in a range of family contexts, including

stepfamilies and blended families. In this entry, the word *stepfamilies* refers to families in which one parent remarries but no additional children are born as a result of this union. The word *blended families* is used to refer to families in which one parent remarries and then has additional children with the new spouse or both spouses have children from their previous marriage, such that some of the children in the family are biologically related to both parents and some are biologically related to just one parent. Given the current prevalence of these alternate family forms, it is essential that practitioners in educational settings understand the implications of growing up in these family contexts for children's environments and outcomes.

The Contemporary Family Context

Changes in family structure in the United States mean that children today are growing up in a number of different family contexts. While the rate of children living in homes with two biological parents is decreasing, other types of family structures are becoming more common, including stepfamilies, blended families, and single-parent families. Two trends are responsible for this diversification: first, the growth of the divorce rate between 1960 and 1980, and second, the increase in nonmarital childbirth between 1960 and the present. In 2013, 40.6% of all births were to unmarried women. In the same year, 40% of people who got married had been married at least once before, and many of these individuals had children from previous marriages. As a result, not only are more children living in nontraditional family types, but because of the rise in divorce and separation rates, most children today will experience one or more changes in family structure that require adaptation and coping.

Family Structure and Child Development

Concern over children's well-being in nontraditional families has spurred a significant body of empirical research on the effect of family structure on children's development. On average, children in single, step, and blended families tend to have

worse socioemotional and cognitive outcomes than those in two biological married-parent families. Specifically, these children tend to experience greater levels of aggression, depression, and anxiety; more delinquency; and more problems in school, both behaviorally and academically. Moreover, even though children in step and blended families have an additional parent compared to those in single-parent families, children's outcomes in these families on average still lag behind their counterparts in two biological married-parent families. Some studies even find that children in step and blended families tend to fare no better socioemotionally than those in single-parent families.

Four primary mechanisms have been proposed to explain how family structure may impact children's well-being: economic resources, parenting time and quality, family conflict and stress, and social selection.

Economic Resources

Step, blended, and single-parent families have lower household incomes on average than do married biological parent families. As a result, children in these families typically receive fewer educational investments and other enrichments that are associated with enhanced child outcomes. This disadvantage in economic resources accounts for as much as 50% of the difference in academic outcomes between children in single-parent homes and children in married-parent homes.

Children in nontraditional families receive fewer economic resources not only because their families have lower average incomes but also because parents in nontraditional families allocate fewer available resources to children. For example, one study showed that even among families with similar incomes, households with a greater number of children with stepparents also make fewer investments in food consumption, and another found that compared to married parents, cohabitating couples with children tend to spend less on health care and education. For both reasons, then, weaker economic resources are considered a primary process by which family structure impacts child development.

Parenting Time and Quality

Parents in step, blended, and single-parent families also interact in less sensitive and stimulating ways with children than married biological parents on average, and these differences have been shown to impact children's developmental outcomes. Among children in families with stepparents or with cohabitating mothers specifically, children on average experience lower parental sensitive caregiving, warmth, and nurturance compared to children in married biological parent families.

It is not only the quality but also the quantity of time that caregivers spend with children that differs in step, blended, and single-parent families relative to married biological parent families. Children in step and blended families spend less time alone with biological mothers and, not surprisingly, less time with their biological fathers than children in married biological parent families. Stepfathers do not fully compensate for this loss in parental time because they typically spend less time with children than do resident biological fathers, in part because the roles and responsibilities of stepfathers are less socially structured and more fragile. Within blended families specifically, however, the amount of time that fathers spend with biological and nonbiological children is roughly equal. Thus, children in blended families on average receive greater time investments from parents than children in stepfamilies. However, fathers in blended families have been shown to invest more time in children when they are married to the mother as opposed to cohabitating, indicating that even within blended family types there exist differences in paternal investments. Such differences in maternal and paternal time spent in activities with children may partially explain the fact that children in these family types have higher than average levels of problem behaviors.

Family Conflict and Stress

Another mechanism through which family structure might impact child development is family conflict and stress. Children can experience two different types of parental conflict: intrahousehold conflict (conflict between parents residing in the

same house) and interhousehold conflict (conflict between parents residing in separate households). Children living in step and blended families are at risk for exposure to both types via concurrent interhousehold conflict between separated biological parents and intrahousehold conflict between biological parents before the separation and possibly between a biological parent and new stepparent. It has been theorized that this exposure might explain the link between family structure and developmental outcomes.

In families where biological parents eventually divorce or separate, children show substantial academic, emotional, and behavioral problems even before the disruption occurs, suggesting pre-disruption intrahousehold conflict may account in part for the negative outcomes associated with family dissolution. In such cases, parental divorce may actually alleviate some of the problems that children were experiencing during the parents' marriage, a hypothesis supported by the fact that behavior problems tend to dissipate somewhat once the parents separate. Furthermore, children from married biological parent households in which there is high parental conflict also experience greater levels of behavior problems than other children of married parents. Thus, parents' staying together in high-conflict households does not buffer children from the negative effects of intrahousehold conflict.

Social Selection

Finally, it is possible that social selection accounts in part for differences observed in outcomes among children from various family structures. Social selection refers to the idea that parental characteristics that contribute to family instability may also impact parenting and children's home environments more generally, which could induce a spurious association between family instability and child well-being. Examples of such characteristics include poor emotional or behavioral health, interpersonal problems, low income, low education, and low cognitive aptitude. Such differences between family types might drive variation in child well-being irrespective of family

type, meaning that it may not be family structure differences per se that drive the differences in child outcomes across family types.

When these types of characteristics are accounted for, links between family structure type and child well-being become weaker, indicating that these underlying characteristics play some role in the observed differences in well-being of children from differing family structure types. However, despite the threat to causal inference these characteristics may impose, studies that have used robust techniques for addressing the influence of selection, such as comparing siblings discordant on family structure experiences and examining individual changes in children's outcomes over time, have found that parental separation and family instability negatively impact children's behavioral, academic, and socioemotional outcomes over and above the effect of selection.

Family Structure Changes and Child Outcomes

Another reason children in nontraditional family structures may fare worse developmentally than those in married biological parent families is because family change itself necessitates a reorganization of roles and disrupts the system of family relationships and, in doing so, may undermine parent and child well-being. In general, children who have experienced such changes have poorer cognitive and behavioral outcomes than children in stable married biological parent homes, though effects on behavioral outcomes are usually stronger. The literature on transitions into step and blended families, versus single-parent families, is more mixed, with some studies finding transitions into blended families are associated with decreases in behavioral and cognitive outcomes and others finding these transitions are associated with improvements in socioemotional and educational outcomes, at least during middle childhood or early adolescence. The number of transitions into different family types may also play a role in behavioral outcomes, with children who experience more transitions faring worse than those who experience fewer.

The most rigorous research to date on this topic has found that the impact of family structure change depends on the context of the child's life in which these changes occur. Specifically, changes in family structure experienced during the first five years of life are more predictive of children's behavior problems than such changes experienced later, likely because children are most susceptible to their environments during this period. In addition to children's age, the impact of family structure change seems to depend on the type of change the child experiences and the family's income level. For children with married parents, moving into a single-parent family is associated with significant and long-term behavior problems, whereas for children with unwed biological parents (i.e., cohabiting parents), the same transition is linked to smaller and more short-term behavior problems. Additionally, such transitions seem to impact children from higher income families more than those from low-income families. That is, moving from a two biological parent family into a single-parent family is associated with increases in behavior problems for children in high-income families but not for those from families at other income levels, and movement from a single-parent family into a stepfamily for the same children predicts a decrease in behavior problems. Thus, across studies, results indicate that when children are from unmarried parent and/or low-income parent families, family structure changes are less impactful, perhaps because they are more normative in these contexts.

This line of research also suggests that movement into a blended family may not be associated with long-term changes in children's behavior problems when experienced during middle childhood. Indeed, relative to staying in a single-parent family, moving into a step or blended family type during middle childhood following parental divorce or separation may significantly benefit children in terms of their socioemotional well-being.

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See also Cohabitation; Family Structure; Family Structure Diversity in the Early Childhood Program; Parenting Effects on Child Development; Partnership Transitions

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BRAIN DEVELOPMENT

The brain undergoes remarkable change in early childhood. Brain development begins in the womb, and much of the work is reserved for the first few years of life. Brain development is shaped by experience; this is especially true in early childhood where environmental influence can impact long-term developmental trajectories. An understanding of brain development helps explain young children's tremendous capacity for learning, behavioral regulation, and socioemotional competence.

Early Brain Development

Brain development begins soon after conception. Within the first few weeks of conception, the neural

tube develops and will eventually form the brain and spinal column. The major developmental task of the neural tube is to grow neurons, and this is achieved at a rate of 100,000 to 250,000 per minute. Neurons then specialize and migrate to genetically predetermined locations; differentiated neurons will later perform unique functions and comprise different regions of the brain. Four weeks after conception, early brain function is detectable and the head accounts for 50% of total fetal length. By birth, the brain contains over 100 billion neurons. It was once thought that neurogenesis, or the forming of new neurons, occurred only in utero. We now know that adults have the capacity to form new neurons (termed *neurogenesis*), but neural growth is never as prolific as in the womb. More important than the quantity of neurons is the strength of connections between neurons.

A complex interconnected neural network is formed with dendrites drawing information toward neurons and axons passing that information along. Axons from one neuron nearly connect to dendrites from another neuron at synapses (the location or gap between the two nerve fibers). Neurotransmitters (chemical signals) or electrical currents flow along neural pathways to achieve communication between neurons. The main functions of the neural network include receiving and interpreting information, making decisions about that information, and planning and carrying out actions based on the information. For example, if a child picks up a hot object, nerve cells send a signal to the brain that is interpreted as pain, the child decides to remove the sensation of pain, enacting a plan to release the object. The speed and accuracy with which neurons communicate is vitally important to brain function.

Brain Plasticity

Although a newborn baby has billions of neurons at birth, the connections between and among neurons are formed largely after birth as a result of experience. The neural pathways that children employ, for example, to bring a spoon from a bowl

to the mouth, will be strengthened with opportunity for practice. In order to strengthen connections between neural pathways that are frequently engaged, the brain undergoes two important processes in the first few years of life. First, often used neural pathways are coated with a fatty substance termed *myelin* (myelination). The myelin sheath insulates axons and speeds communication between cells. Second, from birth through age 3 years the brain undergoes a period of prolific overproduction of synapses (connections between neurons, called synaptogenesis) peaking at about 15,000 synapses per neuron, double the synapses found in an adult brain. Neurons that do not form interconnections with other neurons undergo a process termed *synaptic pruning*. In other words, unused synapses, and by extension neurons, are eliminated. Consider the following analogy: Newly formed neural connections can be likened to a forest path. If a particular path leads to a desirable destination, it will be frequently traveled, until it grows into a dirt road, then a paved road, and eventually a super-highway. If a forest path leads nowhere or is rarely traveled, it will eventually become overgrown until it is indistinguishable from the forest. Synaptic pruning of less used neural pathways creates space for well-used neural pathways to increase in size, speed, and function. Despite synaptic pruning, the brain triples in size from birth through age 2. The brain of a 2-year-old is 75% the weight and size of an adult brain. By age 5, the brain is 90% of its adult weight.

Taken together, the processes of synaptic flourishing and subsequent pruning, along with myelination of neural pathways that are activated by experience, describe how the environment shapes brain development. The ability to shape brain architecture based on experience is called brain plasticity. Some aspects of brain development require experience in order for new learning to occur—termed *experience-expectant learning*. Examples include wiring of the senses or first language acquisition. Experience-dependent learning describes additional learning that may occur, for example, by growing up in a particular culture, but is not required for the brain to develop optimally.

The brain is considered most plastic, or malleable, during early childhood. This malleability means that the brain is primed to learn from new experiences and has the potential to recover from early injury or trauma. Brain plasticity also means that the brain is especially vulnerable to negative environments and experiences in early childhood. Early experiences that shape brain development can alter long-term developmental trajectories and affect multiple domains of functioning across the life span.

Migration, Specialization, and Lateralization

Not all regions of the brain develop at the same pace. Beginning with neural migration in early fetal development, neurons begin to specialize and eventually perform unique functions. The brain matures from back to front and right to left. The hindbrain forms the brain stem and cerebellum. The brain stem develops early and regulates autonomic functions, including breathing, heart rate, blood pressure, and digestion, as well as sleep and hunger. The brain stem is relatively mature at birth so that the infant can function independently. Primitive reflexes, present at birth, are generated in the brain stem and cerebellum. The cerebellum controls motor movement, coordination, and learning. The cerebellum is organized and myelinated following birth.

The forebrain divides into cerebral hemispheres. In early childhood, hemispheres begin to lateralize or perform distinct functions. By middle childhood, the left hemisphere is more often associated with language-based skills and processes information at the detail level. The right hemisphere engages in spatial reasoning, including mathematical thinking and artistic expression. The right hemisphere processes information globally (i.e., big picture thinking).

Subcortical regions include the thalamus, basal ganglia, and limbic system. The thalamus is responsible for sharing information between brain regions and aids in the control of attention and sleep. The basal ganglia are implicated in motor control, and the limbic system represents the emotional center

of the brain where emotions including fear, pleasure, and anger are generated. The development of the limbic system across the first several years of life helps explain why irrational fears and nightmares are hallmark features of early childhood. The limbic system interacts with the hippocampus to store and reproduce emotion-laden memories. The cerebral cortex is the top layer of the brain comprised of four regions or lobes that also develop from back to front: the occipital, parietal, temporal, and frontal lobes. The cerebral cortex enjoys a protracted developmental trajectory, with the prefrontal cortex—housing executive functions and responsible for self-regulation—developing in early childhood but not fully mature until early adulthood.

Interconnected and Experience-Dependent

Regions of the brain differentiate to perform unique functions but do not operate in isolation to achieve discrete developmental tasks. Rather, multiple areas of the brain are activated and coordinated to achieve goals. Communication between different areas of the brain requires experience and opportunity for practice. The corpus callosum connects the two brain hemispheres and develops approximately 800 million nerve fibers that help coordinate brain function by the end of early childhood. The building of complex and coordinated infrastructures explains why development is protracted and why motor, cognitive, language, emotional, and social development are interconnected.

For example, motor development is relatively complex and requires interconnections between multiple regions of the brain. The womb offers some opportunity to practice motor movement and coordination (e.g., fetal thumb sucking usually predicts later handedness). In the first years of life, however, much more opportunity to practice motor control leads to connections with cortical regions of the brain associated with motor planning and execution. The cerebellum is well developed at birth, but it continues to produce new neurons at a higher rate than other brain regions. In order to walk, children must lay neural pathways that connect muscle movements. This activity

occurs not only in the cerebellum but also in the primary motor cortex, where motor control occurs. Walking additionally requires some information about the environment, including depth perception, which comes from the parietal (spatial processing) and occipital (visual processing) lobes. Yet spatial development, specifically depth perception, is spurred by earlier motor milestones, including the ability to sit upright and crawl. Once children are mobile, they develop an appreciation for object permanence, a major cognitive milestone. With object permanence comes the understanding that caregivers continue to exist when out of sight, and what follows is separation anxiety, a milestone in emotional development. In sum, developmental processes are intertwined, and experience with the environment serves as a catalyst for new skill acquisition.

Gene–Environment Interaction

Only a few decades ago, scientists debated whether aspects of children's development (e.g., language, temperament) were a result of nature (i.e., genes) or nurture (i.e., early social environments). Subsequent research has uncovered an answer far more complex. Whereas genes are encoded and inherited through our DNA, early experiences determine gene expression. Humans are born with about 23,000 genes inherited from their parents. Genes are considered the blueprints for development, and the epigenome regulates the expression of the genes within a person's genome. Consider the example of schizophrenia: If one identical twin develops schizophrenia, the other has about a 50% chance of also developing schizophrenia. Using the old nature versus nurture language, we would imagine that 50% of the risk for developing the disease is passed on through genes and about 50% is determined by the environment. In fact, both twins are born with the exact same genetic predisposition for the disease but the epigenome switched on the gene or genes associated with schizophrenia in one twin and not in the other as a result of some environmental input. Chronic stress, psychotropic drug use, and even fetal exposure to influenza are all factors that contribute to

the genetic expression of schizophrenia. Epigenetics describes how experiences can alter brain architecture as well as why early brain development is marked by critical periods. Some genes are open to epigenetic modification throughout life, whereas other genes can be modified only during certain developmental phases.

Critical and Sensitive Periods of Development

A critical period of development describes a phase when children are uniquely prepared to learn a new developmental task. If the window of opportunity is missed, the brain fails to wire and the ability to perform that particular function is lost forever. For example, an infant born with cataracts will fail to wire up the visual cortex if no visual stimulation occurs during the critical period of development. Animal studies reveal that infant animals experimentally deprived of visual stimulation fail to acquire the ability to see if the deprivation occurs during the synaptic flourishing and pruning phase in the visual cortex. In human infants, the ability to see is permanently lost if wiring does not occur in the first few months of life, even if the opportunity for visual stimulation is reintroduced after synaptic development. Similarly, animal studies and human case studies confirm that in the absence of opportunity to hear sounds that vary in tone and volume, the auditory cortex will fail to wire as intended. Devastating examples of profound early neglect also point to early childhood as a critical period for first language acquisition. In rare cases of complete isolation or abandonment, children fail to acquire grammar and syntax beyond early childhood even with intense remediation.

Critical periods of development describe a time when the input experience must occur for the brain to wire as intended, whereas *sensitive periods of development* describe a time when the input experience and subsequent wiring optimally occur. For example, in early childhood when neurons and neural connections are being formed in the language areas of the brain, children appear especially primed to learn language. Second language acquisition, including the nuances of grammar and pronunciation, appear almost effortless in early childhood.

Adults who attempt to learn a second language must put forth considerably more effort, but the consequences of not learning a second language earlier in life are reversible.

Risk Factors That Disrupt Brain Development

Neglect

To understand the impact of neglect on brain development, it is helpful to first examine the converse: *Attachment* describes the deep emotional bond that forms with primary caregivers in the first years of life. The warm and consistent patterns of reciprocal social interactions that occur within these nurturing relationships have been characterized as “the engines of development” by psychologist Urie Bronfenbrenner. Neuroscientists now agree that the “serve-and-return” communication or responsive caregiving that occurs in early childhood shapes brain development across all domains of functioning by building neural networks that dictate how the brain will interact with other people and their environment—these networks are foundational to relationships and learning. Attachment falls somewhere along the spectrum between a sensitive and critical period for development, depending on individual resiliency and contextual affordances.

What happens if secure attachments do not form in the first few years of life? Children who endure chronic neglect are at profound risk for later emotional and psychological impairment. Even physical and cognitive development can be stunted. Brain scans performed with neglected children adopted from institution-like orphanages indicated that brain architecture was underdeveloped compared to typically developing children but improved after children were placed in nurturing homes. Those who were adopted in infancy and early toddlerhood had brain scans nearly identical to typically developing children years later. Institutionalized children who were adopted after experiencing years of neglect had brain scans that indicated improvements along with enduring and irreversible impairments in brain function.

Chronic Stress

Early childhood is stressful. Learning how to take turns and how to separate from family members to enter a new classroom represent normative yet stressful experiences. Chronic stress, however, is pervasive, recurrent, acute, and uncontrollable. Examples of chronic stress include living in poverty, physical and emotional abuse or neglect, and living through the experience and aftermath of natural disaster or war. Because early childhood is characterized by brain plasticity, neural networks are wired based on experience. Children who endure chronic stress build and strengthen connections responsible for fear, anxiety, and fight-or-flight response systems compared to neural connections that promote complex reasoning and emotion regulation. The consequence of this overwiring for a stress response system is that the brain then reacts with increased fear, anxiety, and impulsivity in response to minimally stressful contexts.

Even maternal stress can impact fetal development of emotion regulation. For example, babies born in New York City shortly after the 9/11 terrorist attacks had altered salivary cortisol levels months later. Cortisol and adrenaline are hormones released in response to stress under normal circumstances. However, chronically elevated stress hormones can alter genetic expression in the hippocampus, resulting in impaired memory and learning. Chronic stress increases risk for mental illness, substance abuse, diabetes, cardiovascular disease, and immune dysfunction. Taken together, chronic stress negatively impacts the brain architecture involved in emotion development with consequences for later cognitive, psychological, and physical functioning and health.

Neurotoxins

Neurotoxins are chemicals that disrupt brain development either in the womb or during early childhood development and can cause impairments in learning, memory, attention, and emotion regulation. Three categories of neurotoxins that are especially harmful include heavy metals, organophosphates, and gestational exposure to

recreational drugs. Exposure to heavy metals can disrupt the normal function of neurotransmitters and the formation of synapses. Heavy metals may be released into the environment through industrial waste, coal-fired power plants, vehicle emissions, and more. Organophosphates are released through commercial and residential pest and insect control products. Organophosphates reduce the number of and connections between neurons. Neurotoxins can be ingested, inhaled, or absorbed. For example, fish consumed from polluted waters accumulate mercury. Lead paint commonly found in older homes creates lead dust that can be inhaled or ingested. Organophosphates may be ingested through foods we eat or inhaled and absorbed through skin at parks or playgrounds. Recreational drug use during pregnancy, especially alcohol consumption in the early gestational stages—perhaps before the mother knows she is pregnant—is highly detrimental to brain development. Children with fetal alcohol spectrum disorders (FASDs) often exhibit impaired attention and memory along with poor social skills and behavioral regulation.

Foundations for Optimal Brain Development

Optimal brain development relies on nurturing, supportive relationships with consistent caregivers in environments that stimulate children's desire to play and interact socially. Back-and-forth social exchanges increase in complexity over time and, in so doing, form and strengthen neural pathways that shape brain development and the people we become.

There is no credible evidence to suggest that infant flashcards or videos and programs designed to stimulate brain development will actually promote superior brain function. Rather than attempting to speed up the process of brain development that unfolds naturally in positive environments rich with opportunities for social interaction, efforts should be geared toward minimizing risk factors along with making informed choices about healthful nutrition, exercise, and

sleep. Early childhood educators who sensitively respond to children's needs, foster close bonds with students, and provide a safe and consistent social environment in which children are encouraged to play, explore, discover, and be creative have all the key ingredients in place for promoting optimal brain development. Indeed, positive relationships with teachers can protect the young brain and mitigate the negative impacts of neglect or chronic stress.

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See also Child Development and Early Childhood Education; Determinants of Child Development; Emotional Development; Executive Functioning; Neonatal Health and Development; Neuroscience and Early Education

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BREASTFEEDING

The term *breastfeeding* refers to the feeding of a mother's breast milk to a child by the breast itself; its definition can be expanded to include feeding using expressed (pumped) breast milk. Breastfeeding has been noted as the preferred feeding method for infants. This entry provides an overview of the relevant research on breastfeeding and discusses recommendations for encouraging breastfeeding and supporting mothers in their efforts to begin and continue breastfeeding.

Research

Breastfeeding has been the subject of much research interest. Various studies have reported health benefits for both the child and the mother. Babies who are breastfed receive antibodies from the breast milk. They are less likely to get ear infections, stomach viruses, respiratory infections, asthma, obesity, and type 1 and type 2 diabetes; they have a lower risk for SIDS (sudden infant death syndrome). Mothers receive benefits as well. Lower risk for type 2 diabetes, breast cancer, ovarian cancer, and postpartum depression are all related to breastfeeding.

Although benefits are reported, barriers to breastfeeding exist. Lack of knowledge regarding the specific benefits of breastfeeding and risks of not breastfeeding, along with uncertainty over how to initiate breastfeeding, have been found to reduce the likelihood that breastfeeding will be started or continued once difficulties ensue. Negative attitudes from family and friends and embarrassment have been reported as barriers to breastfeeding. Employment and child care have also been shown to be barriers to breastfeeding. Although federal legislation (e.g., Section 7 of the Fair Labor Standards Act) requires reasonable unpaid break time for an employee to express breast milk in a private location, not a bathroom, the employer is not required to do so if the employer has fewer than 50 employees and allowing breaks would create an undue hardship. Given this, many women may discontinue breastfeeding. Finding child care close to place of employment has also been reported to be a barrier, as have the feeding practices of child care providers.

Recommendations

The American Academy of Pediatrics recommends that infants be breastfed exclusively for the first 6 months of life and that breastfeeding continue with appropriate solid foods for at least the first year. *Healthy People 2020*, a publication of the U.S. Department of Health and Human Services, includes goals to increase the number of mothers who initiate breastfeeding, who breastfeed until 6 months, and who breastfeed until 12 months. Various other agencies and organizations (e.g., the American Dietetic Association [now the Academy of Nutrition and Dietetics], the American Public Health Association) have recognized the importance of breastfeeding and its impact on healthy infant development. Each provides statements of support and recommendations related to its initial implementation and continuation.

Because so many mothers are in the paid workforce, many infants are cared for by someone else. Child care personnel are in an ideal place to

encourage and support a mother in breastfeeding. The American Academy of Pediatrics and the American Public Health Association published *Caring for Our Children: National Health and Safety Performance Standards; Guidelines for Early Care and Education Programs*. Included within the guidelines are recommendations that child care facilities encourage and support breastfeeding. Establishing designated places for breastfeeding mothers to come to the child care center during their break times or lunch time to breastfeed their infants is recommended. Also suggested within the guidelines is the need for a private area with an electrical outlet (not a bathroom) so that mothers have reasonable accommodations to pump breast milk. Teaching caregivers to support and advocate for breastfeeding and implementing policies and procedures for handling breast milk safely are advocated.

Anne K. Bomba

See also Mothers; Neonatal Health and Development; Nutrition

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BUILD INITIATIVE

The BUILD Initiative supports state and community leaders who set policies, provide services, and advocate for children from birth to age 5 years. BUILD partners with leaders working in early learning; health, mental health, and nutrition; and family support and engagement. The organization provides guidance, leadership training, and capacity building. Its cross-systems approach is intended to support families so that children can reach critical health and well-being benchmarks that foster kindergarten readiness and proficiency in reading and math skills and that generally promote thriving children.

BUILD also acts as a network that convenes state and community leaders, online and in-person, to share best practices, resources, and strategies, with a focus on integrating family and child-serving systems and advancing quality and racial equity. BUILD provides customized technical assistance that is designed to meet the unique needs of states and communities. It works intensively with 11 state partners—Arizona, the District of Columbia, Georgia, Illinois, Michigan, New Jersey, New York, Ohio, Pennsylvania, South Carolina, and Washington—and continues to grow an active learning community around the United States by engaging dozens of other states in conferences, webinars, learning tables, and other work.

The Early Childhood Funders' Collaborative (ECFC) created the BUILD Initiative in 2002. Through foundation members' grantmaking experiences, the ECFC recognized that programs, policies, and services being administered for young children and their families during the early 2000s often operated in isolation, at cross purposes, and without adequate resources to meet critical needs. In response, the ECFC designed the BUILD Initiative to foster greater coordination and increased comprehensiveness of programs, services, and policies for young children.

Increasing evidence from brain science underscores that the first five years of a child's life set the foundation for all future growth and development.

Investments in early childhood promote improved health, school readiness, and ultimately, the ability to be a part of an educated workforce critical to any country's future prosperity.

BUILD helps states develop early childhood systems that support quality and works with them to plan and implement effective quality rating and improvement systems (QRISs). BUILD also supports programs and services for children in prekindergarten to Grade 3 and efforts to strengthen the alignment of early childhood programs with K–12 schooling. Its work with state leaders particularly focuses on early learning; family support and engagement; early intervention and services for children with special needs; and children's health, mental health, and nutrition.

Although BUILD's primary focus is on the state level, since the launch of the federal Race to the Top—Early Learning Challenge in 2011, BUILD has also placed great emphasis on maximizing federal initiatives. The Early Learning Challenge (ELC) has provided grants to states to help them improve early learning and development programs for children from birth to age 5. BUILD, with many colleague organizations, supported dozens of states as they created systems plans for their ELC applications. By the end of 2013, there were three rounds of ELC funding and 20 states received grants totaling over \$1 billion. BUILD is now supporting those grantee states to effectively implement the plans and to document the efforts so that all states can benefit from the innovations and lessons learned in the grantee states. BUILD is similarly supporting states working on Early Head Start–Child Care Partnerships, preschool development, and other federal initiatives.

According to BUILD leaders, a key to building a comprehensive and equitable statewide early childhood system is developing and supporting a local infrastructure that can adapt and direct systems-building efforts to the needs and situations of young children and families in diverse geographic areas. An approach that is both statewide and community-based allows for two-way communication and learning, local buy-in, and state supports for local partnerships. BUILD is eager to increase its

ability to support robust state and local approaches to improving outcomes for the youngest children, especially those with the highest needs.

Today, a child's race/ethnicity and where he or she lives predicts the likelihood of that child's healthy development and success in school and life. In its statement *Racial Equity: Our Point of View*, the BUILD Initiative (n.d.) asserts that to address these disparities,

systems-building work at all levels can be neither "colorblind" nor passive. It must intentionally level the playing field in terms of power so that public action, allocation of resources, and oversight are shared responsibilities of a representative leadership. All actions need to be assessed to ensure impact is equitable for children and families of diverse racial, ethnic, cultural, and linguistic backgrounds and for families of diverse socio-economic statuses.

BUILD's learning community serves dozens of states, at varying levels of intensity and depth. BUILD offers "just-in-time" technical assistance. It also provides ongoing learning opportunities that bring state leaders, national content experts, federal leaders, and funders together to support systemic change.

A wide variety of events—such as conferences, topical meetings, webinars, and learning tables—are scheduled each year. As a result, the BUILD partner states, and other states working on early childhood systems, have the opportunity to

- raise issues that present the biggest challenges to success,
- learn in detail from other states engaged in similar work,
- draw on top expertise in the early childhood field, and
- foster collaborative partnerships that enhance their work in both policy and practice.

BUILD's QRIS National Learning Network brings together state implementers, technical assistance providers, and national research organizations

to advance quality rating and improvement systems in ways that truly meet the needs of our most at-risk child and family populations. Through the learning community BUILD is able to work with states to articulate cutting-edge issues and questions, support pilot projects that experiment with new strategies, and create practical tools to support state efforts.

Ruth Trombka

See also Child Development and Early Childhood Education; Defining Early Childhood Education; Diversity in Early Childhood Education; Dual Language Learners; Early Childhood Education Systems

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- BUILD Initiative: <http://www.buildinitiative.org/>
- QRIS National Learning Network: <http://www.qrisnetwork.org/>

BUSINESS PARTNERSHIPS

Business leaders have emerged as major actors in the growing support for early childhood services worldwide. A growing body of rigorous research has shown that the first few years of life are crucial for helping children become productive employees and good citizens. Since executives have realized that early childhood programs are essential for workforce development and economic prosperity, they have taken actions ranging from supporting local services to directly advocating for policy change. This entry briefly traces this background and provides examples of current actions.

Background

Business leaders are driven by data and accustomed to making decisions based on information that affects their company. Their actions in support of early childhood development have been spurred by research that conveys the impacts of early childhood programs on preparing children for successful adulthood. These programs cover a wide range of areas, including education, nutrition, health, and parental supports. The combination of increased understanding of the importance of early brain development, along with a growing body of rigorous economic data on program outcomes, has created a compelling case for action. Because of these data, executives are taking prominent roles in changing public and private systems helping young children and their families.

One key factor in this transformation was the change over the first decade of this century from viewing early learning services as child care that enables parents to work, to seeing these services as education that lays the essential foundation for later academic achievement. A major driver of this change was the national prekindergarten advocacy campaign launched by the Pew Charitable Trusts that lasted from 2001 to 2011. A second significant turning point was the publication in 2003 of a seminal article by Arthur Rolnick and Rob Grunewald of the Minneapolis Federal Reserve Bank, which

re-characterized early education again—as an economic development strategy comparable to, but even more effective than, traditional job creation projects.

These developments helped transform the vision of early childhood programs from just another worthy charity to a crucial educational and economic development strategy that can boost a community's quality of life, contribute to a well-skilled workforce, and expand economic opportunity. All of these factors have led business leaders across countries, industrial sectors, and company sizes to realize that providing young children with a nurturing environment is a business concern. This realization has spurred executives to devote much more time, attention, and resources to early childhood and to take on a wide variety of roles.

Partnership Models

Business partnerships to support early childhood can take many forms. They include the following.

- Business groups that have taken on early childhood as a key concern. ReadyNation is a national membership organization with 1,100 executives, including current and former Fortune 500 chief executive officers (CEOs), who advocate for improving the economy and business climate through effective investments in children and youth at the state, national, and international levels. At the state level, the Ohio Business Roundtable and the Business Council of Alabama both count early education as one of their top policy priorities.
- Policy advisory bodies that are either dedicated to early childhood or include it in their scope. Pennsylvania's Early Learning Investment Commission consists of 76 executives and civic leaders, appointed by the governor, who are charged with spreading the message of the importance of early childhood.
- Public-private entities that raise and administer funds for early learning programs. Nebraska's Sixpence program has raised a significant endowment for early childhood from the public and

private sectors. A coalition of major Minnesota business leaders, from companies such as 3M, General Mills, and Ecolab, raised funds to research, design, and launch an early learning scholarship program, along with a quality rating system called Parent Aware. That group is now driving a major new service delivery program in the state covering home visiting and early learning programs, driven by parent choice.

- Early childhood coalitions with business members that effect change at the local, state, or national levels. Many business leaders participate in California's First 5 commissions, Virginia's Smart Beginnings councils, and Michigan's Great Start coalitions.

The groups, as well as individual business champions, are taking a variety of actions to effect change, from the local to the international levels. These fall into three main categories:

1. Actions to support community-based, direct service projects
2. Actions to use their public positions and status as unexpected champions to call attention to the importance of early childhood
3. Actions to effect widespread policy change, at the local, state, national, or international levels

Community Actions

While charitable giving has been a traditional corporate role, changes are occurring that reflect a deeper understanding of early childhood and a more expansive view of the supports executives can provide. For example, companies with a high demand for technically trained employees, such as Northrop Grumman and IBM, are supporting projects aimed at promoting early interest in science, technology, engineering, and math (STEM) education.

A new type of financial contribution comes not from a company's charitable arm but from its investment portfolio. Pay for success contracts (otherwise known as social impact bonds) create a funding stream for specific early intervention

programs that have rigorous data showing their impact on important outcomes. The savings from those outcomes are then returned to continue the services and pay off the initial investors. For example, the first early childhood pay for success contract in the United States, funded by private capital from Goldman Sachs and J. B. Pritzker, invests in prekindergarten for disadvantaged children. These services are provided by the Granite School District near Salt Lake City, with the expectation that the program will generate savings to the school district by reducing special education costs. If the outcomes are as expected, the savings would be used to repay the investors and the school district in order to continue providing pre-K services.

Public Education

The past decade has seen a dramatic change in the number and prominence of executives who are speaking out on the importance of early childhood as a business issue. ReadyNation's 1,100 business members, including current and former Fortune 500 CEOs, regularly speak to key audiences at the local, state, and national levels. Over 2013–2014, its members appeared in the media more than 400 times, either as part of news articles or through writing op-eds, mostly on early childhood. In March 2015, ReadyNation released an open letter to the United Nations leadership, signed by more than 50 executives from several countries, recommending that early childhood be a priority goal in its sustainable development goals. Other companies have released important reports that put their clout behind the idea of early childhood as a key economic concern. For example, the Australian arm of accounting firm PwC created, pro bono, a major report called "Putting a Value on Early Care and Education in Australia."

Policy Advocacy

Improving the lives of whole generations of young children, worldwide, requires government action. The most powerful role business leaders

can play is to influence the public funding streams and regulations that are necessary to provide the health, nutrition, parent help, education, and other supports that young children need to thrive. In 2013–2014, ReadyNation members had more than 400 direct communications with U.S. policy makers, to support expanded funding of, quality of, or access to early childhood services at the state or national levels.

Several large companies have taken on multidimensional roles that encompass many of these actions and that illustrate their deep commitment to this issue:

- PNC Financial Services Group in the United States was one of the early pioneers in this era, with its Grow Up Great initiative that encompasses employee volunteerism, parent education, local community donations, and advocacy at the state and national levels.
- Denmark-based LEGO Foundation has a five-part initiative addressing children from birth to age 12 called “Play-Based Learning, Sparking a Global Dialogue, Re-imagine Learning, Capital of Children” (which mobilizes the whole city of Billund, Denmark, to focus on children) and local LEGO employee engagement.
- Global accounting firm KPMG created Family for Literacy, which has donated more than two million books through 90 offices worldwide, including Mexico, India, Nigeria, South Africa, Zambia, and the United States. Its executives are also key advocates for early childhood policy in two states.
- Pharmaceutical company Eli Lilly pushed local government in Indianapolis, Indiana, to create a new prekindergarten program to improve the quality of life and attract more scientists with young families. Robert Smith, president of the Lilly Foundation, said in the *Indianapolis Star*, “We can no longer afford this small-ball politics that has defined how we address problems. The message our CEO is sending is that this is critical to the future of our community” (Tully, 2014). The company has also given multimillion dollar donations to support an array of local early learning programs.

These diverse and deep partnerships illustrate that early childhood education has become a significant issue for business leaders who focus not only on the workforce of today but also on the customers, employees, and citizens they need for the future.

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See also Community Partnerships; Community–University Partnerships

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C

CARING

Caring is the active appreciation of other persons and the willingness to treat them with consideration and respect. Caring is central to early childhood education because it communicates to children that they are valuable as persons: that their feelings, ideas, and preferences are worthy. When a child lives in an environment of caring, she builds an attachment of trust with her caregivers, with her surroundings, and with her own inclinations.

At the core of caring is the teacher's ability to see that a child is a person. This very young person cannot take care of his own daily needs independently, but he does have personal preferences, individual needs, and intrinsic desires. The caring teacher respects the child's every effort to learn. Good child care thus consists of regular, beneficial practices such as diapering, feeding, napping, and playing (all of which communicate care), as well as the nurturing of a child's special interests, talents, and temperaments.

To be caring does not mean to allow children to do whatever they want, however. Caring teachers also kindly insist that the children do their personal best every day. Caregivers remind and redirect children to treat others in ways that are respectful. Through consistent and predictable boundaries, through learning the arts of sharing and compromise, and through enjoyable working

and playing with others, children are taught to be caring: to respect other people, to respect materials and equipment, and to accept and moderate their feelings and actions.

Each interaction with children is an opportunity to show caring. Even the wink of the eye or a connecting smile can communicate care to a child. Likewise, providing regularly for a child's needs to eat, talk, run, play, sleep, and wonder teaches a child that his or her environment is safe and he or she can reach out to learn new things.

Caring teachers show children understanding, compassion, and empathy. When children know that their feelings, ideas, and actions matter, they are inspired to put forth their best effort. Therefore, children who have felt caring trust themselves and their caregivers; they try harder and persevere longer. Also, children who feel acceptance are themselves more accepting of differences. They show greater self-regulation and tend to treat others with understanding and kindness. Homes and classrooms that are full of care are permeated with purposeful activity, negotiated roles and rules, and recognition of the worth of each person.

Care as Respect for All

When a caregiver communicates respect to a child, she is showing the child that she believes the child and his or her activities are interesting and valuable. As a result, the child feels admired and worthy. The child learns to believe in the

usefulness of his or her actions and feels free to explore and try out new ideas.

There are many ways to communicate respect to a child. One way is to stop and listen: What is the child saying and what does he or she mean? When a caregiver takes the time to listen with interest, the child feels affirmed and respected. Active listening (rephrasing what the student says) and questioning (delving deeper into the student's comment or activity) lengthen the conversation in ways that extend the student's learning. For instance, when a child is telling about a special occasion at home, talking excitedly and with disconnected details, a caring listener continues to make eye contact with the child, nod, and make sense of the details that are clear. As the child winds down, the caregiver might reply, "What an exciting time you had!" With older children, a caregiver might listen for ideas and events that the child finds interesting and later plan play activities that build on those interests.

Another way to communicate respect to a child is to use respectful, reciprocal language. Just because children are younger and less independent than adults does not mean that they need loud, harsh, or demeaning directions or redirections. Simple language such as "It's time to clean up now" and redirections such as "We're putting away our toys now" are more respectful than tough words or unsympathetic orders.

It is particularly important to use respectful language when a child has made a mistake or is in danger. For example, if a child has taken off his or her shoes and is proceeding to walk into broken glass, a caregiver who responds, "Stop! Your feet are walking on sharps! You will cut your feet and it will hurt!" shows respect for the child's activity but alarm for the risk of injury. On the other hand, a caregiver who urges "Stop! I've told you a hundred times to keep your shoes on! Why don't you ever do what I say? If you get cut, it will be your own fault!" is blaming the child without giving him or her enough information to know why he or she has made a bad decision.

Using affirming language is another way to communicate respect and caring to young children.

Just as the listening teacher communicates "I am interested in your story," the affirming teacher communicates "I am interested in your work." As young children busily move from place to place in the home or classroom, an affirming caregiver notices their activities and makes general, supportive comments during the work. For example, a child who is building a block tower can be inspired by the caregiver's counting as each block is added. A child who is feeding the baby doll hears "I see that your baby is hungry again" as recognition of a job well chosen. Occasional affirmation and recognition fuel the children's energy to be and stay engaged.

Using respectful language and a caring attitude has reciprocal and multiplicative benefits for the social atmosphere. Because young children emulate the words spoken in their environments, they pick up the language of caring and respect and use it with their peers and their caregivers. Thus, the environment is characterized by a language of mutual respect, creating a climate of acceptance.

Care as Understanding, Compassion, and Empathy

Caring teachers are advocates for their students. They understand that, deep down, the child is trying as hard as he or she can and wants to do well. Excellent caregivers perceive children as capable and assume that children's behavior is essentially reasonable. When the child is acting unreasonably, the caregiver searches for an explanation either in the child or in the environment for the misbehavior. Equipped with this outlook, the teacher supports the child's attempts to make sense of the environment and has patience, compassion, and empathy when the child repeats unusual, undesired, or unproductive activity.

Caring teachers strive to understand their students and are always learning about them. They take note of individual children's behavior and motivations and weave together the observations into a coherent portrait. They communicate this portrait to others with appreciation and seek advice about how to best meet the child's needs.

Understanding young children is not an easy or direct task; it requires study, close observation, and reflection. For example, the caring teacher listens closely to the cries of the infant to interpret if the child is wet, tired, hungry, or hurt. Likewise, the caring parent watches the child's attempts to mix mud and water and recognizes from his or her labored breathing and focused attention that his or her small hands are working hard to squeeze the material.

The caring teacher empathizes with his or her students. He or she celebrates with them when they succeed, and when they do not, he or she encourages them to attempt alternate means. The early childhood caregiver recognizes the challenges in simple tasks and takes the child's point of view as he or she encourages and teaches the child. The empathetic caregiver knows when the environment is not interesting to the child and takes steps to improve it. The caring parent knows that the child is bored and wants to play with something in the kitchen, and provides a set of spoons and sauce pans so the child can make sound. If pots and pans are too noisy for the parent, he or she provides a cup of flour and a sifter so the child can sit and sift.

Care as an Ethic of Helping

Young children need much assistance in their daily lives. An early childhood caregiver provides for young children's basic survival needs (food, water, oxygen, sleep) as well as their safety (shelter, security) and psychological (love, acceptance, belonging) needs. A young child thrives when his or her needs are met as soon as possible. However, because young children lack experience and perspective, they do not always know what they need; therefore, the caregiver may not be certain how to respond helpfully or promptly. In addition, a caregiver's time and focus may be divided between the young child and a host of other duties, with immediate satisfaction of a child's needs difficult to supply.

Helping is caring when the child understands that the caregiver is acting in the child's best interest. A child may fuss when he or she is placed on

the changing table but become happier when released with a dry diaper. The child gradually comes to know that this ritual is in his or her best interest and that the diaper-changer cares about him or her. A child may balk at sharing the blocks with a peer; the early childhood teacher helps the children negotiate an agreement; the child becomes grateful for the solution. Responsive, collaborative classrooms are ones where students and teachers help each other.

Care as the Commitment to Teach All Children

Today's child care homes and centers care for children from many backgrounds and circumstances. Early childhood teachers care for each child regardless of his or her abilities, ethnicities, religions, heritage, or temperament. They give each child what he or she needs and ensures that all children receive a high quality of care. The climate of acceptance and the resulting caring social atmosphere provides a safe space for children to consider and accept themselves as individuals.

Teachers who connect with every student every day model an acceptance of difference that students can emulate. Early childhood caregivers circulate throughout the learning space to talk with each and every individual about his or her activity. Children who are more active or less appealing to the eye are treated with respect. The caring teacher safeguards against the exclusion of any child; if a child is told he or she can't play, the teacher moves in to help children better understand the underlying situation and to help them negotiate a solution.

During group activities, teachers encourage the participation of every student. With patient energy, caregivers solicit ideas, insist on turn-taking, and listen to each child's words. They encourage all children to use prosocial behaviors for the good of the group. The teacher's stamina for including everyone in the life of the classroom is the student's cue for his or her own acceptance of difference.

Early childhood educators know that cultural differences and mismatch can lead to marginalization

of students who are “not like us.” Teachers acknowledge that they are cultural beings with value-laden theories about themselves and others. A caring teacher examines his or her own predispositions with sincerity and allows for others’ beliefs and values to be expressed, as long as the well-being of the community is not compromised.

Caring teachers do not tolerate blaming, scapegoating, or apathy by children or colleagues. Early childhood caregivers ensure that all students are progressing in their development and expect for all children to do their best every day. Through communicating high expectations, the friendly, warm teacher sees to it that all students advance. Caring teachers build relationships that bind together the group so that it can support and encourage each individual.

Elizabeth Campbell Rightmyer

See also Guiding Behavior; Professional Dispositions of Early Childhood Educators; Social-Emotional Development; Teacher Beliefs; Trust; Warm and Responsive Interactions

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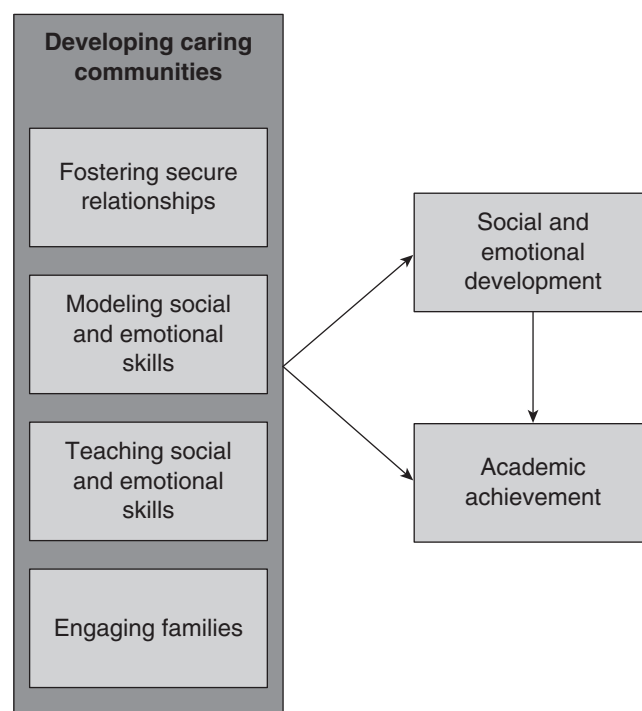
CARING COMMUNITIES

Every child deserves access to high-quality early childhood education, as President Barack Obama articulated in his 2015 State of the Union address.

A critical component of high-quality early education is an emphasis on social and emotional development. A growing body of research documents the importance of social and emotional skills for short- and long-term academic success. Many teachers, however, lack strategies to promote these skills effectively, which likely contributes to the high expulsion rate of children in preschool nationwide. Effectively promoting social and emotional skills requires the development of caring communities. Numerous intervention programs have emerged focusing on one or more of the aspects of establishing caring communities in early childhood classrooms. Caring communities are those in which educators (1) foster secure relationships with children, (2) model strong social and emotional skills, (3) intentionally teach social and emotional skills and provide opportunities for children to practice and apply these skills, and (4) engage families in social and emotional learning.

Caring communities not only support social and emotional development, but they also lay a

Figure 1 Developing Caring Communities in Early Childhood Education



critical foundation for children's social and academic success in early childhood and beyond (see Figure 1). This entry first provides an overview of the importance of developing social and emotional skills through establishing caring communities in early childhood settings. It then gives an overview of the theoretical foundations supporting the framework for caring communities and examples of intervention programs targeting the development of caring communities. Finally, it describes how caring communities are measured.

Developing Social and Emotional Skills During Early Childhood

Creating caring communities in early childhood is essential to effectively promote children's social and emotional development. Importantly, social and emotional skills have been linked to integral learning processes and a range of achievement outcomes. For example, studies have found significant associations between children's social and emotional skills and positive relationships as well as early literacy and math skills, even after controlling for income and IQ. When surveyed, early childhood educators have identified children's social and emotional skills as critical for classroom success and necessary for a successful transition to kindergarten. Children who lack the social and emotional skills critical for classroom success are at risk for achievement gaps that can persist throughout their schooling.

Early childhood education settings are an ideal place for interventions aimed at improving social and emotional skills. During early childhood, children's vocabulary (including emotion-related vocabulary) increases substantially, children begin understanding the causes of emotions, and there is significant brain development in the prefrontal cortex, an area associated with the ability to develop and employ emotion regulation strategies. Promoting caring communities in early childhood settings helps ensure that children have the support they need during a key developmental period of growth in social and emotional skills.

Theoretical Foundations of Caring Communities

The conceptualization of caring communities presented in this entry is informed by numerous theoretical foundations, including Urie Bronfenbrenner's bioecological model of human development, John Bowlby's work on attachment theory, Albert Bandura's social learning theory, and research on emotional intelligence conducted by Marc Brackett and colleagues. Together, these theories address the context in which learning occurs (classrooms, homes), the structure of that learning (e.g., attachment practices, modeling), and the content of learning (social and emotional skills and knowledge).

According to the bioecological model of human development, child development occurs within a system of multiple influences with the child at the center (the microsystem). The level surrounding the child (the mesosystem) represents the environment and relationships a child has at home and at school. Additional levels of the model include the exosystem (e.g., political system), macrosystem (e.g., overarching societal beliefs), and chronosystem (e.g., time). Being at the level most proximal to the child, the relationships that a child has at home and school interact to shape multiple domains of development, including social and emotional development. For example, a study of infants, toddlers, and preschoolers found that having a secure attachment relationship with their mothers predicted higher levels of teacher involvement than having other attachment styles (e.g., avoidant or ambivalent). Another study found that connectedness between 5-year-olds and their mothers significantly predicted children's mutual friendships and peer acceptance at school. These studies highlight the interaction between home and school influences, supporting the inclusion of both in establishing caring communities that effectively support children's social and emotional growth.

The importance of secure relationships as part of establishing caring communities is supported further by attachment theory. This theory posits that the presence of a secure relationship with at least one parent or caregiver is foundational to social and emotional development and the ability

to create and maintain positive relationships. A secure attachment relationship is one in which a caregiver consistently provides sensitive and responsive care while adapting care to meet the needs of each child. There is a growing body of evidence showing that warm relationships with early childhood teachers predict children's social and emotional skill development, positive relationships with peers, engagement in learning, and academic achievement. Early childhood educators who promote secure relationships create caring communities, laying an important foundation of trust between themselves and the children in their classrooms.

By demonstrating behaviors and styles of interacting with others, trusted adults act as role models for children, according to social learning theory. Adults who model social and emotional skills can demonstrate to children effective strategies for managing emotions. By imitating the strategies they observe, children are able to further develop their social and emotional skills. Research documents that an educator's ability to model strong social and emotional skills is a critical component of interventions aimed at promoting these skills in children. Parents and educators also can intentionally teach these skills and give children routine opportunities to apply them in school and at home.

In addition to modeling, parents and educators play an integral role in intentionally teaching these social and emotional skills and helping children apply them in classroom settings as proposed by Marc Brackett, Susan Rivers, and colleagues in the achievement model of emotional intelligence. This model, developed from the theoretical and empirical work on emotional intelligence by Jack Mayer and Peter Salovey, Susanne Denham's research on emotional development, and Carolyn Saarni's work in emotional competence, specifies that children will be most effective in social relationships as well as academically when they are given opportunities to practice and develop social and emotional skills and apply them in their daily lives. The model further specifies that direct instruction of social and emotional skills is most

effective when promoted in the context of caring communities.

Creating Caring Communities in Early Childhood

The Collaborative for Academic, Social, and Emotional Learning (CASEL), a nationally recognized organization aimed at promoting social, emotional, and academic competence at all grade levels, has identified numerous early childhood interventions that have been shown to improve social and emotional outcomes through targeting the components of a caring community. Few of these programs, however, target all four dimensions critical to effectively establish caring communities. *AI's Pals*, *Promoting Alternate Thinking Strategies (PATHS)*, and *I Can Problem Solve* are examples of programs that use classroom lessons to teach explicit instruction of children's social and emotional skill development. *The HighScope Educational Approach for Preschool* and *Tools of the Mind* are examples of programs that focus on improving teachers' instructional practices related to social and emotional learning.

Preschool RULER, which was developed at the Yale Center for Emotional Intelligence and adapted in 2012 from a CASEL-select program, the RULER Approach, is an example of a program that targets all four components of caring communities. Drawing from the theories described in previous sections, Preschool RULER provides tools and a shared language that enable educators and family members to practice and model their own social and emotional skills as well as embed the teaching and practice of these skills throughout the day in early childhood settings. Developing children's social and emotional skills is targeted through a focus on five key social and emotional skills (recognizing, understanding, labeling, expressing, and regulating emotions) that are remembered through the acronym RULER, which provides the name for the approach. Preliminary findings from a pilot test found that children at a school implementing Preschool RULER exhibited

greater gains on a direct measure of social and emotional skills across the school year than children at a control site.

Measuring Caring Communities

Effectively assessing all of the components of a caring community requires a multilevel assessment plan using a combination of direct assessments, surveys, and observational measures to assess children's social and emotional skills, relationship quality between children and caregivers (educators and parents), instructional practices related to social and emotional skills, and family involvement. Currently, the most comprehensive and widely used measure assessing caring communities is the Classroom Assessment Scoring System (CLASS), which was developed by Robert Pianta and his colleagues at the Curry School of Education at the University of Virginia. The CLASS measures the quality of the social, emotional, and instructional interactions within a classroom. The social and emotional climate in early childhood settings is determined by the quality of interactions between and among educators and children in a classroom, with classrooms demonstrating high-quality and supportive relationships being indicative of a caring community. The social and emotional climate of classrooms is a critical factor for learning, as evidenced by the positive associations between classroom climate, student behavior, and academic engagement. A positive classroom climate has been associated with decreased internalizing behaviors and increases in child autonomy in kindergarten and first grade as well as greater increases in preschoolers' social and emotional skills. Research also has consistently demonstrated that a positive classroom climate predicts child literacy skills in preschool and first grade. Moreover, young children with significant behavior and emotional problems fare especially well in classrooms with a positive climate.

Conclusion

Caring communities are foundational to children's social and emotional growth and development.

There are four key components involved in creating caring communities; however, intervention programs rarely provide the support educators need to effectively promote all of these aspects. During the early childhood years, creating caring communities can help ensure that children develop the critical social and emotional skills they need for social and academic success.

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See also Early Childhood Education; School Readiness; Social Skills and School Success; Social-Emotional Competence; Social-Emotional Development

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CENTER FOR APPLIED RESEARCH

The Center for Applied Research was launched by the National Association for the Education of Young Children (NAEYC) in fall 2010. Its purpose is twofold: (1) to ensure that the work of NAEYC is based on the best available research, and (2) to communicate research with early childhood professionals engaged in practice and policy work. This entry describes the history and role of the center.

Research has long been a critical component of NAEYC's accreditation standards as well as its position on developmentally appropriate practice (DAP) and its journal, *Young Children*. Although research has been present in the work of NAEYC since the organization's earliest days, by the early 2000s there was growing awareness that its importance needed to be noted, especially within the

context of research-practice-policy interactions. NAEYC took an initial step in forming the Office for Applied Research in the mid-2000s. In 2007, the NAEYC Office for Applied Research and the Society for Research in Child Development (SRCD) hosted the Wingspread Conference, "Using Research to Improve Outcomes for Young Children: A Call for Action." One conclusion from this summit of early childhood education experts—that there was critical need to effectively translate research into practice—was the primary impetus for NAEYC's decision to launch the Center for Applied Research, specifically dedicated to ensuring that its work was research-based.

The Center for Applied Research ensures that the work of NAEYC is consistent with research on child development and early childhood education. It does so by working within NAEYC organizationally, as well as through NAEYC to reach early childhood professionals in research, practice, and policy contexts. As such, the center serves a unique, dual, role. While it pursues original research, its primary focus is on center-based early care and education centers that are the focus of NAEYC'S work, especially early childhood programs that pursue NAEYC accreditation and institutes of higher education that pursue accreditation or recognition by NAEYC in preparing early educators. For example, the center analyzes data from NAEYC accreditation systems to identify trends in early childhood education programs. These efforts are directed specifically at NAEYC activities. In addition, within NAEYC, the center acts as a hub to ensure that NAEYC position statements and accreditation standards reflect the current state of research. In this way the center links the work of NAEYC with research and practice in the field.

The Center for Applied Research also works beyond the organizational context in efforts to translate research to practice and policy. Externally, one of the center's primary goals is to effectively communicate research in early childhood development and education. This communication includes presenting and explaining research findings to practitioners and policy makers, as well as talking to researchers about gaps in current knowledge.

Some of the center's communication efforts are overt—they take the shape of blog posts, articles, conference presentations, or press and media interviews. Other efforts are less overt but are integrated into NAEYC accreditation standards and NAEYC policy work. The center is intended to be dynamic, to focus on issues as they emerge as well as anticipate future directions. The center has focused longer forms of communication on the assessment of young children and implementation of the Common Core State Standards Initiative.

While research has been part of the work of NAEYC since its inception, the growth of research and public interest in early childhood education led to the formation of the Center for Applied Research. Likewise, current and future work of the center will be driven by, while also contributing to, emergent trends in research and practice in early childhood education.

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See also Accreditation; Developmentally Appropriate Practice; Early Childhood Education; National Association for the Education of Young Children

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CENTER-BASED CARE

Center-based child care provides families with full-time and part-time care in settings outside of the home. Child Care Aware of America reported in 2013 that nearly 11 million children younger than age 5 are in some type of child care center setting for an average of 35 hours each week. Center-based early care and education centers can be described in terms of enrollment size, ages of children served, hours of operation, services provided, auspice and sponsorship, and revenue sources. In addition to these structural features, families can use quality indicators of licensing, participation in quality improvement systems, and accreditation status to make informed decisions regarding a particular child care center. Quality elements, including skilled teachers, high staff-to-child ratios, appropriate curricula, and active child engagement in activities, have also been associated with long-term academic and social outcomes for children enrolled in center-based care. This entry first discusses the differences in types of center-based programs and sponsorship. It then discusses how the programs are funded, cost and quality factors, and the program outcomes associated with center-based care.

The National Survey of Early Care and Education (NSECE) included 129,000 center-based programs serving almost 7 million children birth through 5 years who were not yet in kindergarten. NSECE found that enrollment in programs varies nationally, with about 25% of the programs serving 25 or fewer children and about 33% serving more than 75 children. Three in 10 programs offer fewer than 30 hours per week of care, suggesting that program goals are not designed to support parental employment but may provide socialization or early learning opportunities for children whose parents may or may not be in the workforce.

Center-based child care programs may serve children birth to age 3 years, ages 3 through 5 years, or who are school age. Some programs serve only children 3 through 5 years of age, whereas other programs serve children in all three age groups.

According to the 2014 NSECE survey, about 52% of early childhood programs are not-for-profit, about 32% are for-profit, and the remaining programs are run by local, state, or federal government agencies. Regardless of program type or auspice, tuition is paid by parents in 68% of the programs; public funds from state, local, or federal sources are received by about 73% of centers. Fifty-five percent of children in center-based programs attend programs that are not sponsored by a public school district and do not receive Head Start or public prekindergarten funds.

Program Types

Center-based child care differs based on hours of operation, services provided, and curricular models implemented. Programs operating less than 30 hours per week include faith-based preschools, parent cooperative programs, and community-based preschools. Some Head Start programs and some state-funded prekindergarten programs also operate for less than the full day. These programs may offer extended day options to families to provide care for the full day, or working families who select these programs make alternate arrangements for child care. Full-day programs are most frequently operated by not-for-profit and for-profit organizations whose missions are to serve working families. Hours of operation frequently begin between 6 and 7 a.m. and end between 6 and 7 p.m. to accommodate parents' working hours. There is limited center-based child care for families who work evening shifts, weekends, and holidays; however, some employers, such as hospitals, may provide center-based care for their employees who need child care in the evenings, on weekends, and on holidays.

Center-based programs are often differentiated by the services they offer to children and families. For example, many publicly funded programs offer comprehensive services that include health and nutrition, social services, and family support service components to children and families. These programs may also provide transportation for children to attend the program and to parents to access services provided by the program. Not-for-profit

and for-profit centers more typically offer additional services at additional costs. Fees are charged to support program operation and may include registration, insurance, transportation, extended day, supplies, meals, and activity fees.

Curricular models also serve to distinguish center-based programs. Some programs provide developmental, choice-based curriculum options that are designed by the staff, owners, or franchise. Other programs purchase commercial curriculum packages that are used to advance academic goals or provide a framework for the school day. Still other programs use models that reflect particular theoretical or philosophical approaches such as Reggio-inspired, Montessori, HighScope, The Creative Curriculum, or Waldorf models. These curricular models require specialized staff training and development and may utilize specific materials and equipment. They are also associated with particular outcomes such as improved language and literacy, math, creative thinking, and cognitive development.

Auspice and Sponsorship

Auspice refers to a program's status as for-profit, not-for-profit, or government-run. For-profit programs include small owner-proprietor programs with a few employees and franchises or chains of child care centers. Not-for-profit programs include independent programs run by organizations that only provide early childhood programming and programs that are sponsored by umbrella organizations with broader faith-based or social service missions. Government-run programs include center-based child care that is funded by local school districts, state-funded prekindergarten programs, and Head Start programs run by human services agencies.

Sponsorship refers to additional oversight of some not-for-profit programs and those run by government agencies. According to the NSECE survey, about 30% of center-based child care programs are independent, not-for-profit centers; about 27% are for-profit independent centers; about 5% are for-profit and part of a franchise or chain; and 20% are not-for-profit sponsored

centers. Less than 15% of all programs are run by a government agency. The remaining 3% of programs were identified in the survey as “other.”

Revenue Sources and the Cost of Center-Based Care

Sources of revenue for center-based programs come primarily from the tuition and fees paid by parents. Other revenue sources include tuition paid by the state government in the form of vouchers, grants, or prekindergarten funds; local government funds; federal government funds for Head Start, Title I, and the Child and Adult Care Food Program; community organizations such as the United Way; and/or fund-raising activities. These funds may be blended or braided at the local level to more efficiently utilize resources and serve more children.

Affordability, the cost of the program or service for the family or provider, is affected by staff qualifications, provider–child ratios, and types of services provided by the program (e.g., transportation, meals, and curriculum materials). Parents report that affordability of care is their major concern in seeking child care for their children. Cost of center-based care varies by the age of the child, reflecting staff-to-child ratios that are higher for infants and lower for preschoolers. Cost is also affected by the location of the center with variations between rural, urban, and suburban areas as well as across geographic regions. For example, the average annual cost of full-time care for an infant ranges from \$5,500 in Mississippi to \$16,550 in Massachusetts. The average annual cost of full-time care for a 4-year-old in center-based care ranges from \$4,500 in Tennessee to \$12,300 in Massachusetts.

The cost of providing affordable care can be challenging for the providers who base their rates on the cost of doing business and their access to external resources (e.g., ability to seek external funding through grants and fund-raising activities, public funds, and private contributions). Salaries in child care, the highest cost for providers, are typically low, even in the highest quality, most successful programs. Approximately 80% of the cost of center-based child care is related to payroll expenses even though professionals in child care are among the

lowest paid professionals. Regulations related to adult–child ratios and class size further impact affordability in terms of the number of children who can be served and the cost to provide adequate numbers of staff at each age level, making infant care the most costly to provide and to afford.

Quality

Quality refers to the standard of excellence to which a program is held accountable. Publicly funded programs are generally of high quality; however, center-based child care programs exhibit the greatest variability in quality, resulting in large part from the different levels of regulation (e.g., licensed, voluntarily registered, religious exempt, unregulated) and staff qualifications. For those programs participating in quality improvement activities through a quality rating and improvement system (QRIS) or accreditation through the National Association for the Education of Young Children (NAEYC), quality is generally much higher, although participation in these two programs is also highly variable.

Licensing of child care centers provides assurance that the center meets minimal levels of safety, teaching standards, and curriculum. State and federal background checks of employees, minimum educational requirements, and health and safety requirements vary from state to state. Based on its review of state laws, policies, and oversight, Child Care Aware of America notes that licensing regulations for child care centers are minimal. Thirty states inspect child care centers two or more times a year; however, nine states do not require any type of inspection at least once a year.

A QRIS is provided in many states as a way to systematically assess, improve, and communicate the quality of care offered by child care centers. States differ on the type of components they include in their individual QRIS plans and in the ways they implement their systems. According to the National Child Care Information and Technical Assistance Center, QRIS is statewide if the system is open to providers in all geographic regions of the state and incorporates standards, accountability measures, program and practitioner outreach and support, financial incentives, and parent/consumer education efforts.

NAEYC accreditation is a voluntary, national system designed to improve the quality of center-based child care by developing a standard of excellence and providing tools to support programs in making quality improvements to achieve the standard. By early 2015 there were more than 6,900 NAEYC-accredited child care programs serving over 603,000 children.

Program Outcomes Associated With Center-Based Care

Effective center-based child care programs provide some combination of the following six characteristics: (1) highly skilled teachers; (2) small class sizes and high adult-to-child ratios; (3) age-appropriate curricula and stimulating materials in a safe physical setting; (4) a language-rich environment; (5) warm, responsive interactions between staff and children; and (6) high and consistent levels of child participation. The most extensive evidence for the benefits of high-quality learning environments, particularly for children from low-income families, comes from a growing number of programs that serve 3- and 4-year-olds. Evaluations have also shown positive effects of some early care and education programs that began shortly after birth (e.g., the Abecedarian Program), but fewer long-term studies of these programs have been conducted.

A variety of studies have demonstrated that participation in very high-quality, center-based early education programs enhances child cognitive and social development. For example, the National Institute of Child Health and Human Development (NICHD) report found that children who received high-quality care in the first years of life scored higher in measures of academic and cognitive achievement 10 years after leaving care. Children who spent extensive time in center-based care with larger peer groupings were more likely to display challenging behavior at age 54 months and at kindergarten age. However, children's behavior was within the typical range and a minority of children appeared to be affected. On the other hand, studies suggest that children in poor-quality care do not

fare as well and outcomes are significantly worse for children from low-income families.

Teresa Harris

See also Accreditation; Quality; Quality Rating and Improvement Systems

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CHALLENGING AND SUPPORTIVE CLIMATES

Environments that best nurture young children's development have long been considered an essential component of early childhood education. The term *climate*, when used in conjunction with learning environments for children, is inclusive of the physical, social, emotional, and cognitive setting. The learning climate results from the organization of the learning space itself, the teacher-child interactions, and the interactions between the children. A climate that is characterized as challenging and supportive is intentionally created in such a manner that children's total development will naturally be promoted. Additionally, the knowledgeable early childhood educator utilizes guidance, creates learning opportunities, and provides instruction consistent with children's current level of functioning, while also facilitating growth through intentional scaffolding. A well-structured classroom for young children is planned with the understanding that children are mentally active, capable learners; that the development of the whole child must be nurtured; and that interactions should be responsive to the unique development of each child. High-quality early childhood education programs are created, in large part, through the provision of such climates for young children. This entry discusses the components of challenging, supportive climates in terms of young children's physical, social, emotional, and cognitive development.

Physical and Social Environment

Classroom spaces for young children have historically differed from learning spaces for older children in significant ways. In the nursery school approach of years past, classrooms were divided into activity areas, facilitating children's engagement in various kinds of play. Examples of the common nursery school areas were block play, science investigations, dramatic play, and creative art. The physical environment in the nursery school was created with the understanding that children's

social development was critically important to their total learning and development. Thus, specific work/play areas were provided to facilitate meaningful social interactions among the children.

Among the many particular nursery school philosophies is the Montessori approach, developed by Italian physician Maria Montessori in the early 1900s. Montessori's approach emphasized the preparedness of the physical environment, with the goal of fostering children's independence. As dictated by this philosophy, environments that support and challenge children appropriately are arranged to encourage children to move freely from one activity to another, often choosing whether to work alone or with friends; are neat, clean, and have visible order, allowing children to access and then return materials to their places; include furniture scaled to the children's size; make available only those materials thought to be matched to children's developmental abilities; and include outdoor learning as well as experiences inside the classroom. Montessori's educational principles for young children gained popularity in the United States in the 1960s and continue to have a strong presence in the landscape of American education for our youngest learners.

Several other distinct approaches for promoting children's learning and development have been conceived throughout the history of early education and have remained as influential forces. Perhaps among the most notable, in addition to Montessori, are HighScope, Bank Street, and Waldorf schools, each of which has unique principles for classroom spaces. What is common to each of these is the notion that physical spaces for young children should be responsive to the developmental needs of children and that children's individuality should be valued and supported, even in the preparation of the classrooms. Classroom environments for young children are created with intentional thought about developmental characteristics and their implications for furniture, arrangement of space to facilitate social play as well as independence, children's work displays, and access to interesting and appropriately challenging materials.

A more recent early schooling philosophy is the Reggio Emilia approach, created several decades after the aforementioned schools. By the 1990s, the Reggio methodology had earned national and international acclaim as a model for quality early education. Developed after World War II, in the small Italian city of the same name, Reggio Emilia schools are characterized, in part, by the understanding of the environment as the “third teacher” (after the parent and the classroom teacher). The physical climate within Reggio classrooms is created with natural lighting, inclusion of plants, materials found in nature as objects for exploration, and room arrangement that invites children to thoughtfully select and pursue investigations and to create representations of their thinking. Displays in the Reggio classroom include only what is interesting and relevant to children’s study, such as photo documentations of their activities and child-created collections and artifacts. Various common spaces are created for children’s work and play, such as a block area, a dramatic play area, and an art/atelier area, among others.

High-quality classrooms for young children today are a reflection of the basic principles common to each of these approaches. The physical environments of challenging, supportive climates are intentionally planned and prepared with children’s total development in mind and are, in part, created with children. Activity areas allow for children to work together for blocks of time, so that social competence is naturally promoted. Materials, displays, and furniture arrangement are modified as needed, based on teachers’ thoughtful observations of children’s needs. Children’s interests and activities determine the ongoing creation of a dynamic, learning environment, always responsive to the learners themselves.

Emotional Climate

Knowledgeable early childhood educators recognize the power of the emotional climate to influence children’s growth in learning and development. A positive emotional climate is one in which children *feel* valued, respected, and embraced as a member of a group; a negative emotional climate,

then, is such that children might *feel* devalued, disrespected, and outside of a group. Although no classroom is perfect in terms of the emotional climate, teachers of young children strive to create and maintain a positive emotional climate that best supports and challenges young learners.

Verbal Interactions

In high-quality early childhood classrooms, verbal patterns reveal that teachers listen attentively to children, indicated by moving to the child’s eye level and maintaining eye contact. Positive verbal responses from the teacher may acknowledge the child’s communication, may challenge the child to think further, and may extend the child’s use of language. For example, a 3-year old might state, “Water spilled,” to which a teacher might reply, “Yes, the water did spill out of your cup. What should we do about that?” In this case, the teacher has acknowledged the meaning of the comment, has extended the child’s language (through the use of a complete sentence), and has challenged the child to think about how to solve the problem. A less supportive response would be for the teacher to clean up the mess, simply saying, “It’s okay; I’ll take care of it.” Although such a comment may not explicitly communicate disrespect, it certainly doesn’t challenge the child as a capable, thinking learner.

With children in the primary grades, the same principles apply to supportive verbal interactions. Teachers respond to children in ways that acknowledge their thinking but also stretch them to think further. For example, when asked what the inside of a pumpkin is like, a first grader might respond, “I think it’s cheese,” to which a teacher could reply, “That’s an interesting idea. Why do you think there is cheese inside the pumpkin?” Clearly, the child’s thinking has been acknowledged, and further thinking has been suggested. Conversely, if the response is “Well, it couldn’t be cheese, since this is a pumpkin,” it has been communicated to the child (and to the other children) that one should answer a question only when absolutely certain that it is correct, from the teacher’s perspective. Repeated responses of this type can also send the message to

a child that he or she is not a capable learner, since his or her thinking is not valued by the teacher.

Guidance Strategies

Positive guidance promotes young children's understanding that they are capable of making choices that serve them well and that are respectful of others. Consistent use of positive guidance strategies facilitates children's development of self-regulation skills, also referred to as executive function. There are numerous methods indicative of positive guidance, including redirection of children's attention, the provision of choices in the classroom, use of natural and logical consequences for challenging or inappropriate behavior, and facilitation of children's problem-solving efforts when conflicts occur. Positive guidance is predicated on the knowledge that children are capable learners and that, with adult guidance, they can learn to respect others and themselves in a classroom community.

Within a high-quality environment for young children, rewards and punishments are avoided; dependence on adult control of children's behavior and academic performance can result from the use of rewards and punishments, rather than the desired outcome of growing self-regulation ability. A climate most conducive to young children's learning and development is based on respectful relationships between adults and children, as well as among the children; a learning community built on such relationships is a necessary component of a positive guidance approach.

Cognitive Conditions

For young children to be optimally supported in terms of their developing intellectual capacity, thought must be given to the conditions for learning. Once again, the knowledgeable teacher of young children acts with intention to maintain a climate that is consistent with young children's developmental characteristics, as well as their individual interests and abilities. Thus, the cognitive conditions for learning take into account the natural tendency of young children to wonder, to

explore, and to investigate. Children are understood to be naturally curious and can even be thought of as scientists, as they question and attempt to make sense of their worlds.

Responsive Curricula

Exemplary classrooms for young children utilize responsive curricula, with a strong emphasis on direct, first-hand experience. Topics of study are often generated with children and are based on their interests. Teachers may also pique children's interest in a topic, through introducing materials or experiences that the children will find relevant and interesting. Additionally, the use of responsive curricula implies that there is a predictable routine and rhythm to daily activity but that specific time allotments are flexible and that blocks of uninterrupted time are necessary for children's deep engagement to occur.

Challenging curriculum for children is often described as "emergent": Although curriculum is partially and tentatively preplanned, the specific processes and experiences involved in a study are changed and shaped with the children. In other words, as children engage with materials and investigate topics, teachers observe their interests, note their questions and observations, and respond through the provision of additional resources and planned experiences. Inquiry learning and the project approach are both examples of curricula that are emergent and that challenge children to think deeply and critically.

Choices

Child-initiated activity, or choice, is a hallmark of quality in early childhood programs. When children are afforded opportunities to select from among a variety of meaningful, purposeful learning activities, they are typically more committed to the work they have chosen. In addition, choice allows children to function at present levels of development, thus strengthening skills they have acquired. For example, a child may select a puzzle that has been successfully completed in the past, or a book that has already been read, in order to gain

proficiency and confidence through practice of known skills. On the other hand, choice provides ample opportunity for children to challenge themselves appropriately, in the absence of imposed pressure. In other words, when a child chooses to create a complex block structure, or to record the exact number of wheel rotations in the gerbil cage, without being required to do so, the child is free from outside expectations. Thus, the mental energy required to think and persevere in challenging situations is available to the child rather than compromised by the threat of imposed expectations.

Intellectual Risk-Taking

Environments that support cognitive growth are established with a view of errors as valuable and important to continued learning. Teachers of young children accept children's mistakes in thinking as signs that they are, indeed, mentally capable; teachers also attempt to understand children's ways of thinking, when errors occur, and often find that from the child's perspective, there is logic in the error. Exemplary teachers guide children to see mistakes as opportunities to keep growing and learning, thus supporting children's dispositions toward life-long learning. Freedom from the fear of making mistakes allows children to progress in all developmental domains and curriculum areas, as they are more likely to feel respected, to be confident, and to think beyond imposed expectations for performance. Thus, environments that support intellectual risk-taking increase the likelihood that children will think deeply, critically, and creatively.

Whether in care settings prior to formal schooling or in the early years of formal education, young children's development and learning are ideally supported through intentionally created climates. High-quality environments for children are designed to challenge growth in all domains, while also nurturing children as the unique individuals they are. Young children are well-served in challenging, supportive climates, thoughtfully prepared and maintained by knowledgeable early childhood professionals.

Kelly A. Baker

See also Developmentally Appropriate Practice; Emergent Curriculum; Healthy Environments for Social-Emotional Development; Kindergarten Environments; Preschool Rooms; Primary Grade Learning Spaces

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CHALLENGING BEHAVIOR

Challenging behavior refers to behavior that interrupts and/or interferes with learning and/or optimal interactions with others. Research has shown that when children engage in challenging behavior in early childhood, these behaviors often persist throughout schooling and into adulthood. This entry provides information regarding perceptions of challenging behavior, common characteristics of challenging behavior, the impact of challenging behavior, and interventions that can be used to prevent and address challenging behavior.

Perceptions of Challenging Behavior

In many ways, challenging behavior is largely determined by the perception of the observer. As

is true with all aspects of human behavior, challenging behavior is individualized and, therefore, is contextualized based on one's personal, professional, and educational experiences. For example, if a person was raised in a home with very strict rules and expectations, that person may expect the same from children. Likewise, the way that individuals parented may also impact the way that those individuals interact with other children and perceive children's behavior.

Some early childhood professionals are able to draw distinct boundaries between their professional and personal perceptions of behavior, and at times these perceptions may be contradictory. For instance, an early childhood teacher may be very calm and patient with the young children in his or her classroom; however, at home, the teacher may be much less patient and understanding of his or her own children when they exhibit challenging behavior. In addition, the education and/or training that teachers have received can also influence perceptions of behavior. If a teacher did his or her student teaching with a cooperating teacher who was very harsh and often put children down, that student teacher may have a tendency to mirror this behavior in his or her future practice, even though he or she may know it is not appropriate. Of course responses to behavior on any given day may also vary based on a person's mood and/or cognitive state. For example, an individual who was up all night with a sick child at home and then gets a flat tire on the way to work may be much less patient than usual in interactions with children and responses to challenging behavior.

These examples demonstrate that defining, preventing, and addressing challenging behavior is not an exact science. With that being said, individuals' perceptions shape who they are and their interactions with young children. This is certainly true of interactions and responses to young children who are engaging in challenging behavior.

After a child has exhibited a challenging behavior numerous times, many individuals bypass all logical thoughts about understanding and/or addressing the behavior in developmentally appropriate ways and move straight to an emotional

reaction to the behavior. One of most difficult pieces of addressing children's challenging behavior is remembering that the role of the adult is to better understand the child's behavior and to find strategies to use in support of the child learning new skills to replace the challenging behavior. In other words, the child is not doing the behavior to us. In fact, his or her challenging behavior is probably not about us at all. Rather, the behavior is likely about a child who has a need that has not been met in other ways, and, for whatever reason, the child has found that exhibiting challenging behavior meets that need. Knowing this can sometimes help with refocusing responses on how to better understand and support the child.

Characteristics of Challenging Behavior

Despite the fact that everyone responds to behavior differently based on perceptions and experiences, there are some characteristics that are generally associated with challenging behavior. Considering the frequency, intensity, and duration of behavior can often help in determining whether or not a behavior goes beyond developmentally appropriate expressions. For instance, if 4-year old Joseph gets frustrated because Jordan took a toy from him and he pushes Jordan away to get the toy back, this is a developmentally appropriate response. That is not to say that we want to see this happening, but chances are, with some intervention, both Joseph and Jordan will learn how to share and take turns and how to respond appropriately when frustrated. If, on the other hand, Joseph's typical response in this situation is to scream, throw the toy at Jordan, and kick him, this would be more of a problem. Documenting the frequency, intensity, and duration of challenging behavior will usually reveal patterns in behavior that can help in determining why the behavior is occurring and how to prevent and address the challenging behavior in the future.

Examples of challenging behaviors that are sometimes seen in early childhood settings include but are not limited to (a) *verbal aggression*, including screaming, inappropriate language, and threats;

(b) *physical aggression*, including hitting, kicking, pinching, throwing objects, spitting, pushing, biting, and forcefully taking items from others; (c) *tantrums*, including prolonged crying, stomping, kicking, hitting, pushing, and head banging; (d) *destroying property*, including damaging other children's work, toys, or materials, or damaging classroom items; (e) *noncompliance*, including physical or verbal refusal to participate and/or follow directions; (f) *running*, including leaving the classroom or school property resulting in a safety risk to the child or others; (g) *inappropriate touching*, including the removal of clothing, and/or intentional urination or defecation; (h) *self-injury*, including hitting, kicking, biting, head banging, and cutting oneself; and (i) *withdrawal*, including retreating from all activities and alienating oneself from others.

Impacts of Challenging Behavior

Over the past 20 years, early childhood teachers and administrators have reported a significant increase in the number of young children who are beginning their school experiences without the emotional, social, behavioral, and academic skills necessary for school success. These children tend to have high levels of intense challenging behavior that are not responsive to developmentally appropriate behavior management strategies and practices. In fact, evidence suggests that about 25% of kindergartners arrive at school with significant challenging behavior.

Unfortunately, challenging behavior displayed in early childhood settings is often dismissed as age or developmentally appropriate forms of communication. Experts in the field have shown the importance of addressing challenging behaviors at an early age and that there are consequences if these behaviors are not addressed early in life. For instance, in many cases, when challenging behavior is not addressed during the early childhood years, these behaviors are likely to become more intense and less responsive to intervention efforts. In fact, research has demonstrated that challenging behavior identified during the preschool years that is not addressed often persists over time, resulting

in adolescents who may be identified as having emotional disturbances.

For children who continue on a developmental pathway to a diagnosis of emotional and behavioral disorder, the outcomes are grim. Evidence shows that students who are identified as having emotional and behavioral disorders have about a 50% chance of dropping out of school. Moreover, post-school outcomes for these individuals are also disheartening, including low employment levels, poor work histories, and low wages. During elementary and middle school, these students are at a greater risk for a number of social problems, including school bullying, gang-related activity, substance abuse, juvenile offenses, and acts of violence. These outcomes have been found to act as accelerators and predictors for adult violence and criminal behavior. A direct connection exists between challenging behavior in preschool and antisocial behavior in adolescence and adulthood when early expressions of problem behavior are ignored.

Along with concerns regarding the enduring nature of young children's challenging behavior, evidence also suggests an increased understanding of the interrelatedness among social and emotional development, cognitive development, the acquisition of pre-academic skills, and preparedness for school. Self-confidence, relationship skills, self-management, and self-regulation are among the social and emotional competencies necessary for successful participation in group learning situations. Preschool children with deficits in these critical skill areas are more likely to become children with challenging behavior.

Interventions

Research confirms that greater numbers of children are entering preschool and kindergarten with more complex and challenging behavior than ever before. As a result, there is an increased interest in providing systematic and comprehensive interventions to children during the preschool years. The primary settings in which these efforts are likely to occur are early childhood programs such as public or private preschool centers, child care programs, and/or

Head Start. Regrettably, many early childhood programs are not adequately prepared to meet the complicated needs of children with emotional delays and/or challenging behavior. Consequently, many children with more involved and intensive needs are removed or are at risk for being removed from developmentally appropriate settings as a direct result of their challenging behavior.

Because children with more problematic behavior have intensive and ongoing needs, simply placing these children in preschool programs, child care centers, Head Start, or other early childhood environments is not enough. In the past, many teachers have applied “one size fits all” reactive strategies and rules to complex problem behaviors, which in turn tend to cause challenging behavior to accelerate and intensify rather than decrease and diminish. Children with intensive behavioral needs require more individualized, systematic, and multifaceted behavioral approaches that go beyond typical intervention strategies to understand and change their behavior.

Several theories have been proposed for understanding, preventing, and addressing challenging behavior. Humanistic approaches, associated with theorists such as Carl Rogers, Rudolf Dreikurs, and Abraham Maslow, focus more on the underlying causes of behavior, recognizing individual differences and seeing children’s social and emotional well-being as the center of all learning. A humanistic classroom has shared responsibility, embodies mutual respect, and values and promotes self-regulation of behavior. From this perspective, teachers and others who know the child well seek to understand a child’s “mistaken goals” of behavior. Humanists believe that not all behavior is observable and that the role of the adult is to seek understanding and support the child with challenging behavior to develop a stronger sense of self-regulation.

Diverging from the humanistic view, behaviorism is a learning theory that is built on the theories of Ivan Pavlov (classical conditioning) and Albert Bandura (social learning), and is most closely associated with the works of B. F. Skinner. Foundational beliefs of behaviorism are that all behavior is functional and that all behavior can be

observed, measured, trained, and changed through reinforcements and punishments. A behavioristic classroom tends to focus on the use of rewards and punishments to regulate student behavior. According to behaviorism, only observable behaviors should be examined because internal states (i.e., cognitions, emotions, moods, and choice) are too subjective. Hence, from a behaviorist perspective, teachers and others would carefully observe a child with challenging behavior to look for patterns in behavior that would help them to understand why the behaviors are occurring and then design interventions to extinguish undesired behavior and reward desired behaviors.

Although both humanistic and behavioristic theories have merit in helping us better understand human behavior, in early childhood settings, a combination of these two perspectives is often used when seeking to understand and address children’s challenging behavior. One framework, the pyramid model, has been successful in merging these two views to help children develop self-regulation skills (humanistic) and understand behaviors through observation and functional behavior assessment (behavioristic). The pyramid model is a multitiered framework, which focuses on the establishment of universal strategies, including building positive relationships with children, families, and coworkers and creating high-quality supportive environments in efforts to promote social and emotional competence and to prevent and address challenging behavior. Preventative practices, such as developing and maintaining predictable schedules, minimizing the number of transitions, and providing visual reminders help all children better understand their environment, hence reducing some challenging behavior. The pyramid model also promotes the intentional planning and teaching of social and emotional skills to young children who may be lacking abilities in areas such as language, social, or emotional development. By teaching children to solve problems, resolve conflicts, manage their anger, and use friendship skills, children learn to use these skills in place of challenging behavior.

Unfortunately, in some cases, even when developmentally appropriate strategies such as those described in the previous paragraph are in place to prevent and address behavior concerns, children continue to engage in challenging behavior. For these children who exhibit the most intensive and persistent challenging behavior, individualized interventions are warranted. When addressing the needs of these children, a functional behavior assessment should be conducted to determine the function, or why the behavior is occurring. Functional behavior assessments are conducted through observations of the child in multiple settings, document analysis, and interviews with those who know the child best to learn more about what triggers and maintains a problem behavior. A team of individuals, including the child's teacher, family members, administrators, behavior specialists, and others, meet to review this information and use it to develop a comprehensive plan called a behavior support plan to prevent and address the challenging behavior.

The behavior support plan includes prevention strategies, replacement skills, and new responses by the adults to both the problem behavior and to the appropriate behaviors or replacement skills that are being taught. This level of intervention requires that staff and administrators collaborate with families and community partners to access and coordinate needed resources and supports to ensure that the behavior support plan is implemented with fidelity. Parents and guardians should be involved throughout the development and implementation of this plan and should learn effective behavior management skills to use at home and in other settings. The effectiveness of this intervention depends on consistent implementation across all of the child's natural environments (e.g., home, school, child care). After the plan is implemented, data are gathered to confirm that the interventions being used are working and that the child's challenging behavior is being replaced with more appropriate behavior.

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See also Behavior Disorders; Guiding Behavior; Self-Regulation; Social Skills and School Success; Social-Emotional Competence; Social-Emotional Development

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CHECKLISTS AND RATING SCALES

Checklists and rating scales are formal and informal assessment methods frequently used to obtain information from a variety of sources about young children's development and learning and their environments in order to make important decisions about teaching and program improvement. Checklists provide a method for assessing presence or absence of a skill, behavior, or knowledge in a child and are typically formulated as "yes" or "no" questions. Rating scales are similar to checklists except they assess the *degree* of accomplishment of skill, behavior, or knowledge instead of just the presence or absence of it. Rating scales typically list performance statements in one column and the range of accomplishment in descriptive words, with or without numbers, in other columns (e.g., *never, always, sometimes*). This entry discusses the purpose of checklists and rating scales used to assess young children's development and learning and their environments, cautions about the use of these instruments with culturally and linguistically diverse students, and gives examples of checklists and rating scales that are used with young children.

Valid and reliable checklists or rating scales can quickly provide useful information about children's skills, knowledge, behaviors, preferences, and interests. They can be used for a variety of purposes such as developing children's goals, planning for intervention, and monitoring progress. They are frequently used to screen young children for a presence or absence of disabilities and ensure that they are recommended for further in-depth evaluation if they fail the screening. Furthermore, the information from rating scales and checklists can be utilized to improve the program and its teaching strategies. Checklists and rating scales may be completed by family members, caregivers, practitioners, or administrators who are involved in gathering the information.

Use of Checklists and Rating Scales With Diverse Population

Given the changing demographics of the population of young children, and the inherent complexities

and variability of bilingual language development, Linda M. Espinosa and Michael L. López remind us of the urgent need for the development of clear definitions, recommendations, and resource materials to guide the different types of assessment approaches that are accurate and valid for this unique and rapidly growing population of linguistically and culturally diverse English language learners. Researchers recommend involving families when conducting assessment using checklists or rating scales that are nondiscriminatory and take into account the importance of individual background and history while respecting the child's primary language and home culture. Further, experts caution against the overreliance on standardized, norm-referenced tests during the early childhood years, particularly for the assessment of children from linguistically and culturally diverse backgrounds.

Examples of Checklists and Rating Scales to Assess Young Children and Their Environments

Checklists and rating scales that can be used to assess young children and early childhood classroom environments include the following.

Behavior Assessment System for Children, Second Edition (BASC-2) is a comprehensive standardized tool used to assess adaptive and maladaptive behaviors and self-perception of children and youth from 2.5 to 25 years of age. Parent and teacher rating scales allow complete and multidimensional information.

Behavioral and Emotional Screening System (BESS) is designed to help school personnel and other care providers determine the behavioral and emotional strengths and needs of students and concerns regarding students between the ages of 3 and 18. There are parent, teacher, and student forms available, with each ranging from 25 to 30 items.

Childhood Autism Rating Scale (CARS) is used for the detection and diagnosis of autism. The CARS consists of 14 domains assessing behaviors associated with autism, with a 15th domain rating general impressions of autism. Each domain is scored

on a scale ranging from 1 to 4; higher scores are associated with a higher level of impairment.

The Child Behavior Checklist (CBCL) is used to assess children for various behavioral and emotional problems. The preschool forms and profiles span ages 1.5 to 5 years. The parents, child care providers, and teachers provide ratings on 99 problem items and descriptions of the child's strengths and problems.

Connors Early Childhood is a multidimensional psychological instrument used to assess behavior for children ages 2 to 6. The instrument aids in the early identification of behavioral, social, and emotional problems such as inattention, hyperactivity, anxiety, social functioning, and moods.

Early Childhood Environment Rating Scale-Revised (ECERS-R) is an environment rating scale used to assess the quality of group programs for children ages 2 through 5. The total scale consists of 43 items organized into seven subscales. Each item is rated on a 7-point scale.

Infant/Toddler Environment Rating Scale-Revised (ITERS-R) is an environment rating scale designed to assess the quality of group programs for children from birth to 2.5 years of age. The total scale consists of 39 items organized into seven subscales. Each item is rated on a 7-point scale.

MacArthur-Bates Communicative Development Inventory (CDI) is a standardized tool used to assess early language skills for children ages 8 to 37 months. CDI is completed by caregivers to help professionals screen young children's emerging language and communication skills. It includes three areas: CDI: Words and Gestures (for use with children 8 to 18 months); CDI: Words and Sentences (for use with children 16 to 30 months); and CDI-III (for use with children 30 to 37 months).

Modified Checklist for Autism in Toddlers-Revised (M-CHAT-R) is a scientifically validated 2-stage parent-report screening tool to assess risk for autism spectrum disorder. The 20-item checklist is

used with children between 16 and 30 months of age. Children who fail the screening should receive a more thorough assessment for possible early signs of autism spectrum disorder or developmental delay.

Preschool and Kindergarten Behavior Scales, Second Edition (PKBS-2) is a standardized behavior rating scale designed for use with children ages 3 through 6 years. It includes 76 items on two separate scales to provide an integrated and functional appraisal of the social skills and problem behaviors of young children from parents, teachers, and other caregivers.

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See also Assessing Children for Disabilities; Assessment, Limitations of; Autism Spectrum Disorder; Cultural and Linguistic Responsiveness; Dual Language Learners, Strategies for; Quality Rating and Improvement Systems; Social Skills Assessments

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CHILD ABUSE PREVENTION

According to the U.S. Department of Health and Human Services, child protective services agencies received approximately 3.4 million referrals for child maltreatment in 2010; 78.5% included neglect, 17.6% physical abuse, and 9.1% sexual abuse. In addition to physical injuries, physical disabilities, and abuse-related fatalities, child abuse is associated with acute and long-term psychological, physical, and neurological difficulties; related chronic health problems; mental health care needs; and expenses associated with child welfare, law enforcement, special education, and the judicial system. Richard J. Gelles and Staci Perlman have estimated that child abuse costs \$80 billion a year in both direct costs, such as medical treatment for trauma and child welfare expenses, and indirect costs, such as the increased need for early intervention and special education services. Child maltreatment is a critical public health issue with significant justification for prevention programming.

Child maltreatment prevention has historically utilized a health care model, including primary, secondary, and tertiary prevention. Primary prevention is the most universal and targets factors in the general population that contribute to child maltreatment (e.g., community violence, corporal punishment acceptance, poverty), aiming to avoid initial maltreatment occurrence. Secondary, or selective, prevention targets specific, high-risk groups with significant child maltreatment risk factors (e.g., poor parent-child interactions, parental mental health concerns), attempting to detect ongoing maltreatment and prevent it from continuing. Tertiary, or indicated, prevention focuses on populations where child maltreatment has already occurred (e.g., child welfare) to prevent future occurrence. The majority of research has focused on secondary and tertiary prevention, although work has begun focusing on primary prevention methods.

Child Sexual Abuse

As an initial step in reducing child sexual abuse (CSA) and its subsequent negative outcomes,

experts have recommended educating the general population about CSA and risk factors. Community-level media campaigns such as print, radio, and television public service announcements and informational brochures show potential for knowledge and behavior change. Initial case study findings from a statewide education and community mobilization effort, the Enough Abuse Campaign, are promising. Most CSA prevention efforts have included enhancing knowledge, competencies, resources, or coping skills in children, caregivers, and child care professionals.

Child-Focused Programs

The most common strategies have educated children about CSA using school-based programs that teach children to recognize inappropriate adult behavior, resist inducements, react quickly to leave the situation, and tell someone about the incident. Concepts include body ownership, the touch continuum ("okay" vs. "not okay" touches), acting on intuition, secrets, saying "no," and locating helpful people to tell. Research suggests significant improvements in abuse-related knowledge following child participation in a CSA awareness program, with greater increases in CSA knowledge and prevention skills when the child's parent plays a role in the teaching. However, in a 2003 review of prevention strategies, Rebecca Bolen noted that it is doubtful that simply targeting potential child victims will decrease CSA, as adequately preparing children for diverse approaches of potential offenders may prove difficult.

Caregiver-Focused Programs

Caregivers are in a unique position to decrease CSA risk. Through daily contact with children, they have ample opportunity to provide repeated exposure to CSA information and self-protection skills. Furthermore, as indicated in the National Survey of Adolescents, a large-scale epidemiological survey, the majority of CSA is perpetrated by a family member or nonrelative the child knows; thus, increasing the need for parental knowledge and monitoring (e.g., checking children's Internet use,

preventing unsupervised time with other caregiving adults such as babysitters and coaches, supervising older children who are playing with younger children) may impact children's abuse vulnerability.

Research indicates that parents' knowledge about CSA and prevention are often inadequate. In a community based survey of caregivers, Leslie Tutty found that only roughly half of caregivers report having discussed CSA with their preschool-age children. Furthermore, child abuse researcher Esther Deblinger has found that parents who talk to children about CSA often focus on strangers as potential offenders and provide little specific information about the nature of CSA. Despite books and videos to help parents address this topic, such as the 2003 book *Let's Talk About Taking Care of You: An Educational Book About Body Safety*, by Lori Stauffer and Deblinger, effectiveness research is limited. Workshop-based parent-focused CSA preventive programs increase parental knowledge and increase the likelihood that caregivers will discuss CSA with their children; limited information is available as to whether these programs prevent CSA.

Child Care Professional-Focused Programs

A more wide-reaching prevention strategy focused not only on parents but also on any adult who has contact with children (e.g., teachers, pediatricians, clergy, coaches, child care providers) may prove fruitful. Because of their accessibility to children and expertise in child development, these professionals can promote secondary prevention by identifying possible CSA cases and intervening. At an organizational level, professionals can utilize effective screening techniques for new employees and volunteers, specific guidelines regarding one-adult/one-child situations, and reporting policies to reduce CSA incidence.

Interventions targeting child care professionals such as the CSA Prevention: Teacher Training Workshop Curriculum and Darkness to Light's Stewards of Children have effectively impacted knowledge, attitudes, and potential protective behaviors and show high acceptance and feasibility across diverse ethnic groups. Alyssa Rheingold

and colleagues found minimal differences between the in-person and Web-based delivery modes of the Stewards prevention training programs, suggesting that these modes of training were equally effective. Like child and caregiver programs, child care professional programs impact knowledge and behavior, but it is unclear whether they decrease CSA incidents and prevalence.

Child Physical Abuse and Neglect

Although neglect accounts for a large majority of child maltreatment reports, most existing prevention programs dually target child physical abuse (CPA) and neglect. Because of high CPA and neglect prevalence early in development, and increased risk for negative outcomes during this time, early childhood is a critical period for prevention. Based on research, many programs target proxy measures of CPA and neglect such as parent-child interactions, child well-being, parent stress, and child disruptive behavior. Early prevention programs have demonstrated effectiveness for decreasing CPA and neglect in families of young children from a range of sociodemographic backgrounds.

Caregiver-Focused Programs

Although there are multiple causes and explanations for CPA and neglect, the U.S. Department of Health and Human Services reported in 2012 that caregivers are the most frequent perpetrators, and research has found abuse is often associated with limited knowledge of effective parenting practices. Behaviorally focused parent management training (PMT) programs increase positive parenting practices and child coping, and decrease child disruptive behaviors, as well as emphasize CPA and neglect directly.

The majority of established CPA and neglect prevention programs include one-on-one interventions with trained providers (e.g., Project SafeCare, nurse home visiting programs, Healthy Families America, parent-child interaction training). Although programs differ in focus and content, topics often include parent education and support around effective parenting practices targeting risk for abuse.

Although individualized PMT programs are effective in preventing CPA and neglect, implementation barriers present challenges in delivery to high-risk families, especially when they have not been referred and may not seek services on their own. Barriers can range from personal conflicts (e.g., work schedules, finances, time) that preclude parent engagement, to implementation barriers (i.e., intense therapist training, high costs) that challenge dissemination outside of substantially funded research programs. Home-based interventions address these barriers and are found to be particularly effective. For example, Project SafeCare targets prominent CPA and neglect risk factors; includes core modules on child health, home safety, and parent-child/parent-infant interaction; and has strong evidence for CPA reduction and recidivism across settings.

Caregiver-Focused Programs in Community-Based Settings

Group PMT provides a practical option for parents in community settings that are not specifically referred. Individual PMT is most effective at promoting positive child and parent outcomes, but evidence for the efficacy and cost-effectiveness of group PMT also exists. Individual PMT aims to produce large effect sizes for specific parents, while group programs focus on reaching as many people as possible with an efficacious treatment, increasing overall public health impact of this type of prevention.

Several group PMT programs address CPA risk factors in young children (e.g., Group Triple P, 1-2-3 Magic, Parenting Wisely, The Incredible Years) and typically range from 2 weeks to several years. Whereas these programs focus on similar PMT skills (i.e., effective discipline strategies, establishing routines), their presentation differs considerably. In Group Triple P, the parenting program serves as one component of multiple systems, from the broader community to classroom teachers, and families often remain involved for up to 10 years. On the other hand, 1-2-3 Magic and Parenting Wisely are stand-alone programs that use commercial video/CD-ROM and can be completed in less

than 6 hours. The Incredible Years is a 22-week, community-based program implemented within existing structures where children receive a range of services, including PMT, home visiting, parent-child relationship enhancement, social skills training, and academic tutoring.

Professionals-Focused Programs

Targeting primary and secondary prevention, recent programs have focused on primary care and other pediatric settings. Pediatric settings have expanded their routine review of systems to include abuse screening, and professionals are trained to use clinical judgment in assessing for potential abuse. For example, the Safe Environment for Every Kid (SEEK) model was initiated in pediatric primary care to focus on training professionals and paraprofessionals to identify child maltreatment risk, screen for abuse, and provide case management for identified cases. Studies have demonstrated promising results.

Discussion

Child maltreatment is a significant public health problem that warrants a multimodal prevention approach. Differing approaches and target populations are needed to address various forms of maltreatment. Across all types of child maltreatment, however, there is clear importance to target prevention not only on an individual level but also a community level. Further interdisciplinary detection and prevention efforts are crucial. Yet, despite the obvious advantages and wide appeal of child maltreatment prevention, existing research has significant limitations. For example, one of the biggest limitations within the CSA field is the lack of controlled trials that directly assess the impact of prevention programs on CSA incidents. Although citizens might view child abuse prevention as an important goal, this has not translated into policy support for methodologically rigorous program evaluations or widespread dissemination efforts.

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See also Child Care Policy and Practice; Family Child Care; Family Health; Home Visits; Trauma and Young Children; Violence in Families

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CHILD CARE

Child care refers to care for children provided by a person other than a parent or legal guardian. Child care is typically seen as distinct from classroom education at the kindergarten level and higher. It can be offered in formal settings, such as child care centers or Head Start programs; by people with a range of training and/or experience, such as those with degrees in early childhood education; or by relatives or friends. Some professionals in the field prefer the term *early care and education* to the term *child care*, because of an interest in emphasizing the importance of quality early learning to children's development, and to convey the degree of professionalism required to maintain a strong public system of care and education. Despite that, many continue to use the term *child care* to refer to both formal and informal arrangements.

In the majority of families in the United States, all parents in the household participate in the paid

labor force, making child care an essential element of parents' ability to work and to maintain economic security for their families. Because mothers still tend to take on more parental care for children than fathers, child care is especially important for women's ability to participate in the paid labor force. Strong early care and education systems are a critical component of community economic development and a strong national economy.

Quality care and education experiences also contribute positively to children's cognitive and social development and school readiness, especially for children among low-income families. Research finds that quality early care and education is associated with improved adult outcomes decades later, including higher educational attainment and improved economic outcomes. This entry discusses types of child care and families' utilization of different sources of child care; the cost of child care and sources of assistance; and child care quality, licensing and accreditation, and quality improvement initiatives.

Types and Use of Child Care

Types of Child Care

Families utilize an array of types of child care. Relatives and nonrelatives—such as a babysitter, neighbor, or friend—often provide care to children, in either the child's home or the home of a relative or nonrelative. This form of child care is sometimes referred to as *family, friend, and neighbor* (FFN) care.

Family child care is care provided by a nonrelative in his or her home to multiple children of different families. The care is provided as part of an ongoing business, unlike FFN care provided by a nonrelative. Licensing requirements for family child care homes vary by state.

Center-based care refers to organized child care in a nonhome setting, such as a day care center, nursery school, preschool, Head Start program, or after-school program. Child care centers generally group children by age. Center-based care facilities are required to meet licensing standards that vary by state. These standards include limits on the number of children per care provider that differ

according to age, health, and safety standards, and a required number of provider training hours.

Preschool programs typically serve 3- to 5-year-old children who are not yet in kindergarten. The federally funded Head Start program, for example, serves low-income preschool-age children. In addition, a number of states provide public funding for preschool programs. Children attend preschool programs on a school-day schedule that can range from several hours per day to full days.

Utilization of Child Care Arrangements

Research by the U.S. Census Bureau finds that 61% of children younger than 5 years are in a reoccurring and regular care arrangement at least once per week. Of these children, about four in ten receive care from a relative, three in ten are cared for by a nonrelative (including child care centers or in a provider's home), and about one in ten are cared for regularly by both. Among families living below poverty, relative care is much more common: 85% of children younger than 5 years who are below the poverty level receive relative care as their primary care arrangement. A family's choice of child care arrangement can be affected by a variety of factors, including cost, the family's socioeconomic status and household composition, age of children, children's health needs, employment circumstances and schedules, available information on child care options, and preferences related to cultural backgrounds of providers.

Child Care Costs and Financial Assistance

Cost of Child Care

For many parents in the United States the cost of child care represents a significant portion of their monthly expenses. In 38 states and the District of Columbia, two-parent families pay, on average, more than 10% of the state median income for center-based infant care. Child care represents an even greater share of single parents' budgets: In every state, single parents pay more than 20% of median income for center-based infant care.

Child care is often more costly than other common family expenses, such as rent, food, or even college tuition. Child Care Aware of America finds that care for an infant at a child care center is more than twice the amount a family spends on food in all regions of the United States. Costs for a 4-year-old in a child care center are higher than public 4-year college tuition and fees in 20 states. Child care costs are particularly burdensome for low-income families. The U.S. Census Bureau found that in 2010, families who earned less than \$1,500 per month spent, on average, 49.5% of family income on child care.

Financial Assistance for Child Care

The federal Child Care and Development Fund provides resources to states to help low-income families access quality, affordable child care while parents work or attend education or training activities. States provide subsidies to families that meet income and other eligibility requirements. Child care subsidies, however, are limited and often difficult for many families to obtain. In 2011, only 17% of the 14.3 million federally eligible children, defined as all children of families with incomes below 85% of state median income, received subsidies.

States often put their own, more stringent eligibility criteria in place, such as income caps and limitations on eligibility when parents are searching for a job. According to the Department of Health and Human Services, in 2011, just 29% of the 8.4 million children eligible under state eligibility rules received assistance. As of 2014, 18 states had waiting lists or had frozen intake for families applying for child care assistance.

The United States, on the whole, provides fewer public child care supports to families as compared with other high-income countries. Policy makers and advocates are working to expand the support of affordable, high-quality child care options in the United States, but the need for such options significantly exceeds the supply. In the United States the primary sources of child care funding are the Child Care and Development Block Grant, the Head Start program, and state child care and pre-K budgets.

Total federal and state spending would need to increase substantially to ensure widespread access to quality, affordable care.

Quality of Child Care

Elements of Quality

The Cost, Quality, and Outcomes Study of early child care, a large, longitudinal study of child care in the United States, found that child care quality characteristics were related to positive social and cognitive outcomes for children, with structural factors and process quality making a difference in child outcomes. Structural quality refers to characteristics of child care, such as group size, staff-to-child ratio, facility size, and the training, qualification, and compensation of care providers. Process quality refers to factors such as the positivity, intimacy, and social elements of the relationship between the caregiver and child, as well as the provider's teaching style. For example, high process quality is characterized by caregivers interacting often and in close contact with children, encouraging expression of feelings and ideas, listening attentively, and smiling. Structural quality components are thought to facilitate an environment with high process quality. For example, an environment with a low staff-to-child ratio (one element of high structural quality) enables the potential for a caregiver to be engaged with each child (an element of high process quality).

Licensing and Accreditation

Licensing standards are minimum requirements that must be met by a child care center or family child care home in order to operate. The standards include parameters for staff training and qualifications, child-to-staff ratios, and health and safety measures, among others. Specific requirements are set by each state, with licensing standards varying widely across the country. For example, for toddler care, maximum ratios range nationally from a low of 4:1 to a high of 12:1, with 8:1 being the most common ratio. According to National Center for Child Care Quality Improvement, in 2011 more

than 300,000 licensed facilities were operating with a capacity to serve 10 million children.

Several organizations provide accreditation opportunities to child care centers and homes, which require adherence to higher standards than those required for licensure. For example, the National Association for the Education of Young Children (NAEYC) developed national standards for programs serving children from birth through age eight. According to recent estimates, 6,500 currently accredited programs serve almost one million children.

Quality Improvement Initiatives

A number of quality improvement initiatives are under way across the United States. For example, 39 states have developed quality rating and improvement systems (QRISs), designed to incentivize and help programs improve quality, while providing information on quality to help families select programs. Facilities meeting QRIS standards typically receive training, mentoring, and technical assistance; receive financial incentives; and are subject to monitoring such as onsite visits, self-assessments, and document verifications.

One factor affecting the quality of child care is typically low wages earned by child care providers, relative to comparably skilled workers in other fields, which can negatively affect job retention and longevity in the field. According to the Bureau of Labor Statistics, in 2012, the median wage for a child care worker was \$9.38 per hour. Some quality efforts, including many QRISs, include wage ladders that offer child care providers higher wages when they attain additional training or credentials.

The federal Child Care and Development Block Grant (CCDBG) was reauthorized in 2014 for the first time since 1996, with new health, safety, and licensing requirements for facilities receiving funds. For example, states must standardize trainings on first aid, CPR, and prevention against sudden infant death syndrome, and providers must receive health and safety training before operating. States are also now required to inspect CCDBG facilities before

they receive licensure, and states must also inspect licensed CCDBG facilities at least once per year.

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See also Child Care Assistance and Child Development; Child Care Policy and Practice; Child Care Quality and Young Children's Behavior; Family Child Care; Preschool; Quality Rating and Improvement Systems

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CHILD CARE ASSISTANCE AND CHILD DEVELOPMENT

Children are more likely to achieve long-term success when they begin school ready to succeed. But school readiness involves more than just a high-quality early learning experience. Children also are more likely to be ready for school when they have a stable, nurturing family environment with parents who have the economic security to promote learning. For many families, low-wage jobs with inflexible schedules and a lack of resources for high-quality child care create profound stress that inhibits the healthy environment children need for a strong start. Child care assistance for low-income families comes mainly from the federal Child Care and Development Block Grant. State and local governments contribute to a lesser degree with only very modest funding from the private sector. This help for families pays for all or part of child care expenses while parents work, seek work, or attend school themselves, and can make it more likely that children will start school ready to learn.

Child care can help parents get and keep a job or further their education, enabling them to concentrate at work or school knowing that their

children are well cared for. A nurturing environment for children promotes their learning and development. By helping families pay for child care, child care subsidies allow parents to work and earn the income necessary for their family, which is also important for children's development. A 2011 study by Greg J. Duncan, Pamela A. Morris, and Chris Rodrigues found a relationship between an increase in family income and children's achievement, with their results suggesting that a \$1,000 increase in a low-income family's annual income increased young children's achievement by 5% to 6% of a standard deviation. When parents earn a steady income they can offer their children more stability, opportunities, and resources. Families can live in better neighborhoods with better schools, provide nutritious meals, and buy books and other toys that allow their children to learn and explore.

The cost of child care is burdensome for low-income families. In 2013, the average cost of full-time child care for one child in a child care center ranged from about \$4,500 to \$16,500 annually depending on the age of the child and the state, according to Child Care Aware. Yet, only one out of six children eligible for federal child care assistance receives it, according to a 2015 report from the U.S. Department of Health and Human Services.

Child care assistance makes a difference in helping people get and keep a job. Research shows that when parents receive child care assistance, they are more likely to work. A three-state study in 2004 examining child care subsidy participation among families receiving and leaving welfare found that, controlling for various background characteristics, using a child care subsidy decreased the probability of ending employment over the study period by 25% to 43%. A California mother who left welfare and obtained a steady job after receiving child care assistance to attend school told *The Huffington Post*, "The stable child care was the linchpin" (Goodman, 2012).

Several studies have shown that families on waiting lists for child care assistance find it difficult to work. A 2005 Minnesota survey found that nearly three-quarters of parents had made changes

in their job or education plans, including nearly half who had to reduce and/or change their work hours and almost one-fifth who had to cut their school hours or quit school altogether. In North Carolina, about one out of four families on the state's waiting list for child care help had lost or had to quit their job while waiting for assistance, according to a 1998 study.

Knowing their children are in a safe environment reduces stress for parents and impacts how they interact with their children. Research demonstrates that stress negatively affects parenting, which can negatively affect child well-being. A 1999 study by Philip Coltoff, Myrna Torres, and Natasha Lifton found that 77% of the families on the waiting list for subsidized child care in New York City believed their current child care arrangements were negatively affecting their children.

Families unable to receive help are often forced to use a patchwork of unstable arrangements, causing disruption for children and more stress for parents. *The Huffington Post* article mentioned earlier also followed another California mother on the waiting list who was worried about leaving her children with relatives but had no choice because she needed to keep her job. She said, "When I leave, I just feel like I'm taking chances. But I don't know what else to do. I have anxiety a lot" (Goodman, 2012).

The benefits of child care assistance for children and their parents are intertwined—children are more likely to succeed when their parents can provide greater financial security, and parents are more likely to have the peace of mind and focus they need to work when they are confident their children are in good care.

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See also Child Care; Child Care Policy and Practice; Child Care Quality and Young Children's Behavior

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CHILD CARE POLICY AND PRACTICE

Child care refers to regular nonparental care provided to children from birth to age 13 years. The U.S. child care system is a patchwork of child care centers, formal regulated and informal unregulated family child care homes, and relative or nonrelative providers in a child's own home that serves imperfectly the often competing missions of parental labor force participation and child development. Funded largely by parental fees and only partially subsidized by state and federal programs, the contemporary U.S. system reflects a cultural perception of child-rearing as a private rather than a public good.

This entry begins with an overview of contemporary child care practice followed by a brief history of child care policy in the United States leading to the creation of the Child Care and Development Block Grant (CCDBG), or Child Care Development Fund as it is alternately called. It then examines price as a barrier to child care access and the role of the CCDBG in enhancing access, explores the intersection of policy and child care quality in the face of the CCDBG, and comments on evolving evidence of links between child care policy and the dual outcomes of parental employment and child development.

Contemporary Child Care

Contemporary child care is one component of the larger U.S. early childhood education and care system that also includes early education provided through federal Head Start and Early Head Start programs, private or state-run prekindergarten programs, and early childhood demonstration programs typically linked to research centers. A given child care program may include early childhood education components, or it may serve a primarily or exclusively nonparental supervisory function. However, as parents frequently access multiple forms of nonparental care in order to provide wrap-around coverage that meets their children's needs and their own work schedules,

child care and early childhood education are difficult to separate in practice.

The U.S. Census Bureau estimates that 8.2 million children (or slightly over 40% of all children under age 5) received one or more forms of regular nonparental care in 2011 for an average of 26 hours per week if their mother was working and 21 hours per week if their mother was not. The 2011–2013 edition of the *50 State Child Care Licensing Study* completed by the National Association for Regulatory Administration (NARA) indicates that care was provided by some 312,000 licensed facilities (including 107,000 licensed child care centers of which 71% were for profit) or by informal care providers.

The form of nonparental care accessed by parents differs by the age of the child, parental income, and other sociodemographics and by parental labor force status and work schedule. Specifically, compared to mothers who are employed part time, those employed full time are more likely to access center care or family day care and less likely to rely on relative care. Younger children of working mothers are less likely to be placed in center care than are older children. Children living below the poverty level and children of Hispanic origin are also less likely to be in center care than other children. Use of multiple care arrangements is common. According to the Census Bureau, 26.7% of children under age 5 with working mothers used multiple care arrangements.

History of Public Support for Child Care

Contemporary means-tested child care policy finds its roots in the notion of nonparental care of poor children as a charitable obligation of the social elite. In the late 18th through the early 20th century, free day nurseries run as charitable organizations with strong moral overtones and often with religious affiliation sought to support maternal employment as a last resort to family destitution and to reform what were perceived to be the bad habits of children raised in poverty. Working mothers unwilling or unable to submit to the stringent requirements and harsh judgments of

these day nurseries accessed a wide variety of informal care arrangements, including child self-care, pieced together out of necessity.

Although female labor force participation rates rose from less than 35% to more than 60% during the 20th century, cultural tension around the issue of voluntary maternal employment kept public child care policy at a standstill. Short-term federal funding to support nursery schools and child care centers during World War II, when women's employment was deemed a national need, represents a notable but temporary exception to the nation's lack of public child care support. Modest child care support for low-income families through mechanisms such as Title XX of the Social Services Block Grant (SSBG) and Title IV-A and IV-C of the Social Security Act of 1935 declined in real terms through the 1980s, even as efforts to move low-income unemployed mothers into the workforce intensified. Increased funding for Head Start—a means-tested federal school readiness program established in 1965 that includes a half-day early education component for 3- and 4-year-olds—provided some relief for the parents of preschool-age children, but the restricted hours of care rendered it of limited use to many working parents then and now.

Middle-income families fared somewhat better through expansion of the dependent care tax credit program during the 20th century. Begun as a tax deduction to subsidize employment-related child care expenses in 1954 and reformulated as a tax credit in 1979 for the same purpose, the program credits between 20% and 30% of annual child care expenses up to \$3,000 for one child and up to \$6,000 for two or more children, depending on family income level. At present, this program returns \$3.4 billion of benefits annually to dual-earner or single-parent working households. Because the credit is not refundable, it is of most value to middle-income earners. According to the Tax Policy Center, 85% of the total benefits in 2010 accrued to households earning between \$40,000 and \$200,000 annually.

The birth of contemporary public child care policy for low-income families through the creation of the CCDBG came finally as a by-product

of employment mandates included in welfare reform through the Family Support Act of 1988 and the Personal Responsibility and Work Opportunities Reconciliation Act (PRWORA) of 1996. Originally passed in 1990 and reauthorized in 1996 and 2014, the CCDBG integrates and expands funding previously provided under the Title IV Aid to Families with Dependent Children Child Care program, including transitional child care and at-risk child care programs, into a federal block grant administered by the states with discretion on program scope and eligibility.

CCDBG money flows to a state in three separate streams: Mandatory and discretionary spending allocations are determined based on the size of the eligible population while maintenance of effort (MOE) funding requires that states provide matching funding at the level that maintains effort prior to CCDBG implementation. Child care funding previously provided under Title XX remains a supplement to CCDBG, and states have the option to allocate a portion of their Temporary Assistance for Needy Families (TANF) block grant funding for child care provision as part of their MOE match.

Under CCDBG and its related programs, combined state and federal child care spending grew from under \$2 billion in 1991 to just over \$4 billion in 1998 to a high of nearly \$13 billion in 2011, although spending has since dropped to \$12 billion, according to Department of Health and Human Services data compiled by the Congressional Research Service and the Center for Law and Social Responsibility (CLASP). Roughly 1.5 million children are served by the CCDBG program annually, up from 1.3 million in 1997 but down from a high of 1.8 million in the mid-2000s. Fifty percent of the families receiving care under CCDBG had incomes below the poverty level and an additional 25% had incomes between 100% and 150% of the poverty level, according to 2010 estimates produced by the U.S. Government Accountability Office.

Despite the noted expansion in funding, according to Organisation for Economic Co-operation and Development (OECD) data the United States spends significantly less on preprimary education and care in real dollars per child and as a percentage of gross

domestic product than does the average OECD member nation, and the gap in spending is not closed by higher U.S. levels of private expenditure. Well-accepted evidence of the high social returns to early investment in children and families makes such low levels of spending potentially problematic.

CCDBG Policy and Access to Child Care

An explicit goal of CCDBG policy is to enhance low-income families' access to regular, formal child care that is constrained by high child care prices. The cost of full-time infant care exceeds 10% of the state median income for a married couple in 38 states and exceeds 25% of the median income of a single-parent family in all states, while the cost of full-time preschool care exceeds 10% of the state median income for a married couple in 19 states and exceeds 25% of the median income of a single-parent family in all but 6 states, according to a survey conducted by Child Care Aware. Considered another way, child care costs for a family with two children in care exceed the cost of housing and food in most regions of the United States and are comparable to a year's tuition and fees at a state university in many states.

Low-income working families who receive child care subsidies funded through the CCDBG and other smaller programs exhibit a higher likelihood of using formal licensed and especially center care. However, it is widely recognized that the subsidy programs currently in place are inadequate to meet the needs of the majority of low-income families. Only 17% of eligible families receive subsidized care through CCDBG and other sources. As of early 2013, growing waiting lists for child care assistance were recorded in 19 states, according to the National Women's Law Center. In addition to a lack of funding, studies cite structural aspects of the child care subsidy delivery system—such as lack of information on eligibility, application and recertification process burden, and perceived stigma—as additional factors in low subsidy take-up and note that take-up rates vary systematically by family characteristics. According to a 2012 Urban Institute report, state-level revision of

some CCDBG policy parameters has the potential to enhance child care access.

Where available, low-income parents of preschool-age children utilize state or school-sponsored prekindergarten programs or Head Start to provide part-time care in addition to that provided under CCDBG. According to 2012 data from the National Survey of Early Care and Education (NSECE), a comprehensive nationally representative compilation of data on child care supply and demand, 70% of school-sponsored programs and 81.4% of Head Start-funded programs provided free care to all parents. In the end, however, many parents unable to access formal regulated care to meet some or all of their schedule needs rely on family members or friends to provide low-priced or free informal care. According to 2012 data from the NSECE, roughly 72% of unlisted or informal home-based providers provided free care to children under 3 years of age versus only 9% of center-based programs and 5% of listed home-based providers.

Child Care Quality and the CCDBG

Analyses of the link between the quality of the child care setting and child developmental outcomes consistently identify modest but statistically significant positive correlations that are stronger in younger than older children and more pronounced in language and academic outcomes than social outcomes. Research further suggests the presence of a nonlinear effect in which a minimum threshold of quality is needed, with the highest quality care yielding far more substantial impacts on outcomes.

However, given the high price of quality care, parents are frequently forced into lower priced unlicensed and potentially lower quality care even when subsidies are present. According to the Department of Health and Human Services Administration for Children and Family, 19% of the children receiving CCDBG funding are in unlicensed care, with that percentage as high as 30% in some states. Although correlational studies on the link between subsidy receipt and care quality have yet to produce definitive results, low state

CCDBG reimbursement rates limit parental choice of providers and thus may decrease the quality of care received inadvertently. According to a 2012 summary of state child care policies conducted by the National Women's Law Center, only three states set the maximum child care reimbursement at the market rate of 75th percentile, with the remainder of the state reimbursements set at a lower level, often as low as the 50th percentile. Further, reimbursement is often complicated by paperwork requirements and evidence of ongoing parental eligibility, and subsidies require a parental co-pay averaging 10% of the price of care.

Quality enhancement provisions in the form of mandates and funding set-asides in the 1996 and 2014 reauthorizations of the CCDBG legislation suggest that access to child care of an adequate quality to support strong child outcomes is of concern to federal policy makers, but implementation of these quality enhancement provisions is complicated in practice. First, meaningful child care quality measurement is difficult. Historically, child care quality has been measured using both structural (e.g., child-teacher ratio, average class size, teacher education and training) and process (e.g., the nature of the child-teacher interactions, the structure of the learning environment) measures. But as of 2015, structural measures factored most prominently in child care licensing and regulation guidelines given the ease with which they may be quantified and despite their well-recognized inferiority as predictors of child development. The creation of a set of widely accepted quantifiable environmental rating scales including the Early Childhood Environment Rating Scale-Revised Edition (ECERS-R), the Infant/Toddler Environment Rating Scale-Revised Edition (ITERS-R) for center care, the Family Day Care Rating Scale (FDCRS) and the Family Child Care Environment Rating Scale-Revised Edition (FCCERS-R) for family day care settings, and, more recently, instructional quality measures such as the Classroom Assessment Scoring Scale (CLASS) allow for the possibility of more meaningful and accurate quality measures and guidelines moving forward.

Second, federal mandates rely on state implementation often without funding increases to support quality improvements. Recognizing the important role of quality in both parental choice and ongoing center assessment, states began constructing quality indices referred to as quality rating and improvement systems (QRISs) that draw on classroom assessment scales and environmental rating systems to effectively measure process quality. As of February 2015, all but seven states had QRISs in place and six were in the pilot or planning stages of QRIS. In a growing number of states, QRIS ratings are tied to financial incentives and rewards for the providers that partially offset their cost of quality increases, and state QRIS management is one of a number of allowable uses of the states' CCDBG quality set aside in recognition of the need to both mandate and fund quality improvement. However, many believe that additional funding is needed to support further quality improvement while maintaining overall access.

Child Care Subsidies and Outcomes

Child care access through subsidized child care consistently associates in the literature with a range of parental, especially maternal, outcomes, including increased investment in human capital, increased labor force participation and employment, shorter spells of unemployment, and more sustained periods of employment among low-income women who are the targets of the subsidies. Further, expansion of subsidy programs through increased funding or higher reimbursement rates at the state level are correlated with higher parental employment probabilities.

The evidence on the impact of subsidy use on child outcomes is less definitive. According to a review of the child care subsidy literature prepared by the Office of Planning, Research and Evaluation at the U.S. Department of Health and Human Services' Administration for Children and Families, subsidies have the potential to influence child outcomes directly by changing the quality, quantity, and form of nonparental care, including early childhood education, and indirectly by changing a

family's access to financial resources other than child care. However, a limited number of empirical studies have failed thus far to produce consistent evidence on the true nature of the effect, making this an important area of future inquiry.

A note of caution on interpreting much of the literature assessing the efficacy of child care policy in promoting the dual goals of parental labor force attachment and child well-being is warranted. Correlation between subsidy receipt and outcomes does not guarantee a causal relationship between the two. Specifically, unobserved or unmeasurable factors correlated with both child care access through subsidy use and the outcomes of interest may bias correlational estimates, even when multivariate regression analysis controls for confounding factors through means such as instrumental variables and propensity score matching. Although experimental studies that randomly assign participants to control and treatment groups and then assess outcome differences between treatment and control avoid such problems, such studies are typically regional in scope, limiting their generalizability.

The Future of Child Care Policy and Practice

The idea that child care, and early childhood education and care more generally, can play a role in economic development is beginning to gain ground. The social debate over maternal labor force participation appears to have given way to an acceptance of the inevitability if not the value of working mothers. Nobel laureate James Heckman has identified significant positive social returns to investment in early childhood development. Nonetheless, the United States lags behind much of the developed world in terms of the size and scope of child care policy. Increased focus on access to high-quality early care and education for all children is necessary to close the gap in this regard.

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See also Early Childhood Education; Early Childhood Education Systems; Head Start; Infant and Toddler Programming; Prekindergarten; Preschool; Quality; Quality Rating and Improvement Systems

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CHILD CARE QUALITY AND YOUNG CHILDREN'S BEHAVIOR

Most young children in the United States attend some form of child care or early childhood education before beginning formal schooling. These settings vary enormously, as do children's experiences in them and outcomes associated with them. For this reason, research and policy communities within early childhood care and education have a strong interest in measuring and documenting child care quality and the outcomes associated with it. This entry focuses on the relationship between child care quality and young children's behavior. First, it provides a brief overview of the definition and measurement of child care quality and of young children's behavioral development. Then, it describes current knowledge about the links between child care quality and young children's behavior.

Child Care Quality

Throughout the United States and beyond, it is quite common for young children to spend significant periods of time in a child care setting. Research on the effects of child care has largely moved beyond asking whether child care itself is good or bad for children. Instead, the focus is now on child care quality. It is understood that child care arrangements vary a great deal in terms of their quality, and so defining and measuring that quality, and linking quality of care with children's outcomes, has become key to understanding the effects of child care.

Child care quality is typically conceptualized into two distinct components. The first is structural quality, which involves aspects of the child care setting that are typically concrete, objectively measurable, and regulable. These characteristics include staff education and training, child-staff ratios, provision of specific materials, and features of the physical facility. The second component is process quality, which involves the interactions between caregivers and children, including instructional and emotional/relational features of those

interactions. Process components of quality are theorized to mediate the relationship between structural quality and children's outcomes. For example, staff who are well-educated in early childhood education are expected to interact with children in more effective and developmentally appropriate ways, leading to better outcomes for the children in their care. As process quality is more proximal to children's development, it would be expected to have a stronger relationship with child outcomes, versus structural quality, and some empirical research has found this to be the case. However, process quality is much more challenging to measure and regulate, compared to structural quality, so policy efforts related to child care quality are typically focused on structural quality characteristics.

These structure-to-process-to-outcome relationships have been found in some, but certainly not all, studies of child care quality. Furthermore, many studies find that aspects of child care quality predict children's outcomes, but the relationships are quite small. Additional work is needed to understand which aspects of quality are truly important, how they are best measured, in which settings and for which populations they matter, and which aspects of child development they predict. An important promising direction involves matching domain-specific measures of quality to domain-specific outcome measures, rather than relying on global indicators of quality. Research continues to delve into these questions.

Studies of child care quality, particularly those using newer, domain-specific observational measures, suggest that child care quality in the United States is commonly poor to mediocre. Furthermore, child care quality is not randomly distributed among children. Children from more advantaged families (higher income, greater maternal education, two parents, more sensitive parenting, etc.) are more likely to experience high-quality child care. Children who are already experiencing the risk factor of poverty are likely to experience the additional risk of low-quality child care. Thus, it is an important research and policy priority to document, understand, and ameliorate the risks associated with low-quality child care.

Young Children's Behavioral Development

Early care and education settings are an important context for the development and expression of children's behavior. Educators and developmental scientists often categorize children's behavior into three domains: externalizing, internalizing, and prosocial behavior. Both externalizing and internalizing behavior are considered to be maladaptive, at least in large amounts. Externalizing behavior is undesirable behavior that is directed outward, toward the world around the child. Examples include aggression in its many forms (e.g., physical, verbal, relational), hyperactivity, and oppositional or noncompliant behavior. Internalizing behavior is undesirable behavior that is directed inward, toward the child himself or herself. Examples include depression, social withdrawal, and anxiety. In contrast, prosocial behavior refers to a desirable category of behaviors that benefit others and enhance social relationships. Examples include helping, sharing, cooperating, and comforting.

A general pattern of children's behavioral development over time involves an increase in the ability to control impulses and to behave with intention. Thus, externalizing behavior, which is sometimes also labeled as undercontrolled behavior, tends to decrease as children age. In contrast, internalizing behavior, which is sometimes described as overcontrolled behavior, tends to increase with age, at least for some children. Similarly, prosocial behavior depends on some level of intentional control and becomes more frequent with age.

Beyond these general developmental patterns, a number of other factors appear to influence children's tendency to behave in externalizing, internalizing, or prosocial ways. Boys are more likely to display externalizing behaviors, whereas internalizing and prosocial behaviors are more common in girls. Environmental influences, such as parenting, economic and cultural resources, and neighborhood violence, are also important. Child care is an important environmental context for many young children, and so child care quality can be expected to have some relationship to behavioral development.

The Association Between Child Care Quality and Behavior

Research on child care experiences as a predictor of children's behavioral development has generally included three characteristics of child care: the quality, the amount, and the type. Although the focus here is on child care quality, it is useful first to give a brief overview comparing the evidence related to these three characteristics of child care. The amount of child care experienced (generally measured as hours per week or sometimes as age of onset) has been consistently associated with increased externalizing behaviors. Exposure to center-based child care (as opposed to home-based child care) has also sometimes been linked to behavior problems. Although there is not complete agreement on the relative importance of these factors, as research on child care quality becomes more extensive and more sophisticated, the balance of evidence suggests that child care quality is a more important predictor of children's behavioral development than is the amount or type of child care experienced.

In general, high-quality child care is associated with children's adaptive behavioral development. The most extensive research has been done in the United States, but similar findings have also been found in studies based around the world, including Australia and Sweden. Behavioral outcomes that have been linked to high-quality child care include prosocial behavior, compliance, social skills, positive peer relationships, and attention regulation. High-quality child care has also been linked to fewer behavior problems, particularly externalizing behaviors, and less conflictual relationships with teachers. Most studies examine children's behavior during child care or in the first few years following child care. However, child care quality effects on behavior have been found to last as far as age 15, with high-quality child care predicting fewer externalizing behaviors in adolescence.

Results vary based on how child care quality is measured. Typically, global measures of quality are less likely to predict children's behavior than are more narrow, specific measures of quality. However, those specific measures need not always

be obviously social-emotional in content. Both socially oriented measures of quality (e.g., caregiving quality) and more instructionally oriented measures of quality (e.g., language-reasoning quality, instructional support) have been associated with children's behavioral outcomes. Process measures of quality (e.g., relationship quality) are more often associated with behavioral outcomes than structural measures are, but structural measures of quality sometimes predict behavior as well. Examples include teacher-child ratio and group size. Margaret Burchinal and colleagues have investigated quality thresholds and found some evidence that child care quality best predicts children's behavioral outcomes only when the quality reaches a minimum level of acceptability.

The association between child care quality and children's behavioral outcomes is most often described as small to moderate in terms of effect size. As a group, home- and family-related factors are generally more powerful predictors of children's behavior than are child care factors. Sometimes, when home and family variables are included in the same model, the child care quality variables no longer retain predictive power. This may be because the quality of children's child care experience is related to home and family factors that influence child care access and selection.

Many researchers have investigated whether child care quality is a more important factor for children who are at risk due to home and family background characteristics such as poverty, parenting stress, and unsafe neighborhoods. Research findings have been mixed, but some evidence suggests that high-quality child care can have a compensatory effect. In other words, exposure to high-quality child care may be protective for at-risk children, helping to prevent poorer behavioral outcomes. Similarly, some research has described a double jeopardy effect such that children who experience low-quality environments both at home and at child care have poorer behavioral outcomes than children who experience just one of those conditions.

Some research suggests that the behavioral development of children with certain individual

characteristics is also particularly likely to be influenced by child care quality. Boys, African American children, and children with negative temperaments seem to be differentially affected by child care quality, such that high-quality child care has a stronger positive impact, and low-quality child care a stronger negative impact, on their behavior in early and middle childhood. In adolescence, evidence suggests a diathesis-stress pattern, such that children with negative temperaments have more externalizing behaviors if they experienced poor-quality child care, but they don't have fewer externalizing behaviors if they experienced high-quality child care. Research additionally suggests that a specific genetic marker indicates increased susceptibility to child care quality effects in the prediction of behavior.

In conclusion, child care quality does appear to predict young children's behavior. The overall relationships are fairly small in magnitude, but the association may be especially important for certain populations of children.

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See also Challenging Behavior; Early Childhood Teacher Education; Healthy Environments for Social-Emotional Development; Prosocial Behavior; Quality; Quality Rating and Improvement Systems

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CHILD DEVELOPMENT AND EARLY CHILDHOOD EDUCATION

Child development describes the patterns and progress of human development from conception to adolescence. The changes that happen during this period are profound, rapid, and so complex that it is difficult to talk about them all holistically. Therefore, describing how children develop is usually broken into categories or smaller systems. These smaller systems are called domains. The three major developmental domains are physical, social, and cognitive.

Based on nearly a century of careful study, researchers have documented overarching patterns across these domains. Given that the patterns of change occur over time, it is thought that these changes represent normative development. As children mature, the ability or emergence of new skills is sometime referred to as *milestones*.

Major developments, such as beginning to walk or beginning to talk, are called milestones. Normative or typical development occurs when the expected milestones are reached in the expected order within the expected time range. Therefore, another way that child development is sometimes discussed is to describe what babies and children are like at various ages or stages.

Research from the fields of medicine, anthropology, psychology, and sociology make it clear that the environment and context within which a child develops interact with the child's inherited biology to shape the child's development. Because of the interaction between the genes a child inherits from his or her parents (nature) and the context of development or the environment of development (nurture), the individual patterns of development and the exact timing are unique to every individual. That is why a combination of information on domains and ages and stages of development are useful in considering how to best support a child's development. And while it aids in the discussion of what develops to break apart development by domain or time, child development must be understood holistically with an understanding the child is growing and changing across many different domains.

This entry first reviews the domains and stages of development, discusses major child development theories and theorists, and gives an overview of the developmental principles considered important for early childhood programs. It then discusses the importance of child development information in supporting the development of children who are at risk or who have a disability or delay, as well as the limitations of current knowledge about child development.

Domains of Development

There are three major developmental domains—physical, social (or social and emotional), and cognitive. In addition to these major domains, there are many subdomains that are also considered very important for development. These subdomains are both embedded in and overlap with one or more of the major domains. For instance,

language development is a subdomain that overlaps with the physical and cognitive domains but is also connected to the social-emotional domain. Likewise, because the changes that happen in each of the developmental domains are dependent on and influenced by the changes that are happening in the other domains, development is irreducible and can only be understood as the development of the whole child. However, because of the amount of change that takes place and the complex nature of all that is changing, a domain approach to discussing and thinking about development is often useful. The following is a brief overview of the three major developmental domains of child development with examples of the sort of subdomains considered within each.

Physical Development

The most widely studied of all the developmental domains is physical development. A child's physical development can be observed starting at conception. Even prenatally, children's biological development is tracked in terms of length (height) and weight and physical activity (kick counts), and their nutritional needs are addressed through prenatal diet. Once a child is born, he or she is weighed and measured, and this information becomes part of the health record that will follow him or her throughout life. Physical development also includes physical differences between boys and girls, especially with the onset of puberty toward the end of the child development period.

Sensory development and motor skill development are two of the subdomains studied under the domain of physical development. Children's ability to hear, taste, and touch begins to develop in utero, before they are born. Visual capacity does not begin to develop until after children are born and they begin to use the small muscles in their eyes needed to focus. Motor development includes development of both large (sometimes called gross) and small (sometimes called fine) motor skills. Gross motor skills include learning to control and use the large muscles in the legs and arms. Fine motor skills include abilities to move hands and fingers, feet and toes.

Brain Development

While the brain is technically a physical organ, how it develops is highly influenced by the environment. A baby's brain development begins at conception and is highly sensitive to environmental conditions. Everything a pregnant woman eats, drinks, and breathes affects the developing baby's brain. Brain tissue is made up of neurons and glial cells. The neurons are the cells that control what we consider brain activity (movement, thinking, feeling, speaking). Neurons are formed prenatally. Once a baby is born, connections between neurons develop. These connections are called synapses and they shape the brain and how it functions.

The ability of the brain to change and shape itself is called brain plasticity. Neurotransmitters are chemicals released by neurons that send signals across the synapses allowing the neurons to communicate with each other and form networks. The synaptic links between neurons are strengthened, as neurons are stimulated and synaptic connection used. It is believed that there are several hundred different types of neurotransmitters. Neurotransmitters are produced in response to many things, including environmental stimulation. For instance, when a person is frightened or scared, norepinephrine is released allowing for quick movements—the fight-or-flight ability. Ultimately the experiences one has build brain function and structure by strengthening neural connections. How these connections operate is influenced by the neurotransmitters that are also influenced by experiences.

Social Development

Social or social-emotional development addresses how children relate to and form relationships with other people. For instance, all babies have a need to form an attachment relationship with their primary caregiver(s). For many babies their primary caregiver is their mother. Babies will also form attachment relationships with other adults who regularly care for and nurture them. Depending on the family and culture, other caregivers could be fathers, grandmothers, or child care providers.

As babies grow older, the attachment relationship they form with their caregiver(s) will shape the way that the child develops relationships. A caregiver who provides warm and responsive caregiving can help soothe babies when they are afraid or distressed. This is important because high levels of fear or sadness over a prolonged period of time can have negative effects on brain development by exposing the brain to the chemicals in stress hormones and neurotransmitters. Research from children who have been abused or neglected indicates that they have social-emotional and cognitive challenges later in life. It is believed that many of the emotional and behavioral issues brought about by abuse and neglect stem from the changes in brain chemistry and functioning brought on by this toxic stress.

The study of emotions and emotional regulation also falls within this domain. Researchers have generally agreed that there are six globally recognized major emotions: sadness, happiness, anger, disgust surprise, and fear. More recently these six have been narrowed to as few as four, with anger/disgust and surprise/fear being biologically blended together with only socially constructed differences. Although these four emotions are universal, culture dictates how they are understood.

The study of temperament is a subdomain of social development. Temperament is an inborn biological feature that influences how the child behaves. Various researchers have studied temperament and divided it into several different dimensions; in early childhood these dimensions include activity level, sensitivity to the environment, regularity in bodily functions (sleep, bowel movements, hunger), and initial reaction to new situations. Initially researchers were interested in trying to help children who were considered shy, that is, those who were slow to warm up and had difficulty adapting to new situations because they were unwilling to explore. More recently there has been interest in learning how to support those children with low persistence and high activity levels, as these temperaments are associated with attentional issues.

Understanding friendships and peer relationships is an important subdomain. As children grow

older and begin to interact with other children and develop relationships with peers and other caregivers, these relationships will be shaped both by the child's own personality and the social context. The ability to recognize other people's emotions and to develop empathy for others is an important social milestone.

The social-emotional realm also addresses children's ability to manage their own emotions and to develop the skills of behavior management and executive functioning. Managing one's own emotions is related to executive functioning, as one must be able to refrain from lashing out with hitting or biting when angry. However, executive functioning is also associated with being able to wait for a reward, such as a marshmallow, if waiting means that you will be able to get more of the reward. Executive functioning is also related to persistence and the ability to stick with a task even if it is unpleasant. Persistence and attention are critically necessary to support development in the third domain, cognitive development.

Cognitive Development

Cognitive development is described as the child's developing ability to think and learn. Cognitive development is dependent on a child's needs being met both physically and social-emotionally. Among the subdomains included under cognitive development and that are assessed in order to measure cognitive ability are language development, memory development, and problem-solving ability.

Cognitive ability is often called intelligence. Measuring intelligence by determining a person's intelligence quotient or IQ score started very early in the study of psychology. In the beginning, intelligence was limited to measuring verbal, computational, and memory skills. However, there are many problems with measuring cognitive capacity in this way, mainly because tests such as these assume that everyone is exposed to the same information and language. Clearly a person can be very intelligent and not speak English, a problem if the intelligence test is in English. It is for this reason that it has been difficult to accurately measure

cognitive abilities in very young children, because they cannot yet communicate in a way that allows them to be tested. Likewise, many now have a more broad conception of intelligence that incorporates the idea of multiple intelligences, including abilities such as kinesthetic (movement), visual-spatial, and musical-rhythmic.

Within the domain of cognitive development, much of the academically related abilities such as mathematics, science, and literacy appear. While literacy skills are often considered an indication of cognitive skills, it is clear to see that literacy is also influenced by sensory development—both sight and hearing, because the foundation of literacy is language development. And while language development is often considered a subdomain of cognitive development, speech and hearing are usually placed in the realm of the physical developmental domain. Further, language is learned in relationships and is influenced by social context and experiences.

Because the changes that happen in each of the developmental domains are dependent on and influenced by the changes that are happening in the other domains, development is irreducible and can only be understood as the development of the whole child. That is why an age-based understanding of child development is useful.

Stages and Ages of Child Development

The field of child development spans prenatal development to age 12, at which point children are considered adolescents. Embedded within this age span are the early childhood years. It is widely agreed that early childhood encompasses the years from birth through age 8. Early childhood education addresses the learning needs of children before they enter formal primary grades. The age at which children begin first grade varies by country, with children starting as young as 5 years old in some countries and in others starting as late as 7 years old.

The age ranges given for children acquiring various abilities represent normative development; not all children will fit within these ranges. Even within the early childhood time frame there are

smaller age ranges that are given special consideration in the field of early childhood education. The age range from birth to 5 years old is often divided into programs for infants and toddlers and programs for 3- to 5-year-old preschoolers. In the United States the 3- to 5-year-old age range is often referred to as preschool, with kindergarten starting somewhere between the fifth and sixth birthdays. However, different countries have widely varying ages at which children begin formal schooling. Further, these ages and programming change over time. For instance, in the United States, with the emergence of prekindergarten programs for 4-year-olds, prekindergarten may at some point be considered the transition to formal education.

During the infant and toddler stage, children typically learn to roll over and crawl. Typically somewhere between 9 and 12 months, babies will take their first step and eventually walk (toddle) by around 18 months. They usually start to say proto-words (“dada,” “mama”) anywhere between 9 and 12 months, and they usually will have said their first word by 12 months. During the first few months they have established an attachment relationship with their primary caregiver(s), and they will seek their caregiver at times of fear or uncertainty once they start exploring the world through crawling and later walking. During this period babies go from a liquid diet, to beginning to eat solid foods, to beginning to feed themselves.

During the 3- to 5-year-old stage, children learn to manipulate smaller objects with their fingers and develop the ability to hop and skip. They begin to notice the symbols and signs in their environment and will be able to “read” common symbols. Preschool children begin to form friendships with same-age peers they see and interact with regularly.

During the 5- to 8-year-old stage, children develop and then refine the ability to read and write. By the end of the early childhood stage, a child must go from learning to read to the ability to read to learn. They develop a wider range of friendships. They are able to toilet, groom, and eat independently. They can run, throw, and catch balls, and they begin to develop the skills of various sports. They enjoy games with rules. Toward

the end of this period, children begin to develop the ability for abstract thinking and more sophisticated reasoning. They can spend more time on tasks with multiple steps that extend over longer periods.

The emergence of developmental skills usually takes place within a general age range. Children achieving a milestone anywhere within the normative ranges are considered on track for typical development. For some milestones, the range is very tight; for example, birth usually occurs after 9 months of gestation. For other milestones the range covers several years. For instance, the typical and normative onset of menarche in girls ranges over a 2-year span and gets younger with increased access to nutrition and health care.

To determine the level of functioning of a child compared to what are established age-related abilities, screenings and assessments are used. Screenings are used as a quick check-in to determine if a child is or is not on track with his or her development. Assessments are used to hone in and determine at a much finer grained level what a child is able to do compared to same-age peers. If a screening tool raises a concern, an assessment is then used to determine more specific issues and concerns. Both assessments and screenings are grounded in the developmental data that have been gathered for well over a hundred years on children's developmental abilities.

Sometimes children have delays in development not because of a biological or genetic condition but because the environment is such that it poses a threat to development. In some cases the environment does not offer support for development, and in other cases the environment actually harms development. In these cases children are said to be at risk for developmental delays or damage. In this way the term *at risk* signifies that the delays a child will experience are due in large part to the environment they are developing in and are not solely because they have a genetic or physical challenge. Often this designation is reserved for children who do not have an identified challenge or delay but for whom there are environmental factors known to contribute to less optimal outcomes. Among these

factors are living in poverty, having parents (especially mothers) with mental health issues, and having highly chaotic and inconsistent routines or living arrangements. Research has shown that as the number of risk factors increases, the likelihood that a child will experience a delay increases.

Child Development in Early Childhood Education

Over the years, children's programming and, in some cases, curricular approaches have been developed based on theories, beliefs, and research on child development. While early care and education programs are designed to support learning, in the same way that elementary schools support learning, what this looks like in early childhood programs varies greatly from what is done with older children.

Historical Roots

Guidance on how to care for and teach children dates back to antiquity. Plato and Aristotle offered guidance for children's education, as did Confucius in China. In India there are ancient texts devoted to pediatric medical care. Since antiquity, adults have been concerned with preparing children to take on the tasks of adulthood. Ideas on what influences a child's development have swung between a belief that the child was born with a set of capacities that could be shaped and taught but not changed, to the belief that a child could be shaped into being anything by the adults around him or her.

It was not until the late 1800s that childhood was seen as a special time in life that needed attention and study. One of the reasons for this was based in the work of evolutionary theorists such as Robert Chambers and Charles Darwin. Notions of progress and universal laws driving development were very appealing to intellectuals of the time. As a part of this interest, observations of children and how they grew emerged. The interest in development corresponded with the emergence of the field of psychology in the 1800s.

Psychosocial Development

Some of the early pioneers in psychology contributed to the field of child development. Sigmund Freud's observations on human development led to his stage theory of psychological development. Erik Erikson built on this work and developed a stage theory of emotional development with a set of developmental crises that must be resolved in order to continue to progress.

John Watson felt that parenting could shape behavior. Watson, and later B. F. Skinner, keeping with the blank slate idea, theorized that learning was externally controlled through punishments or rewards. Rewards are also called reinforcements and are widely used in programming. An example is giving a child a sticker when he or she has used the potty.

Cognitive Development and Constructivism

However, other psychologists felt that it was not just external inputs that shaped children's development, but children themselves were also responsible for their learning. This perspective is called constructivism, meaning that children construct their own knowledge. Although both Jean Piaget and Lev Vygotsky are considered constructivists, their views on the order of construction and how knowledge is constructed differ widely. Piaget began studying children because he was interested in the mistakes that they made on intelligence tests. He developed a view that the reason that children do not do as well as adults on intelligence tests was not because they were not as intelligent as adults, but because they thought about things differently from adults. Piaget began to ask children questions and study how they understood information, developing from this a theory of stages of children's cognitive development. Piaget hypothesized that development must come first and that the child's stage of development influenced the way that the child would then construct his or her own new knowledge or understanding. Vygotsky felt that knowledge, gained through interactions with adults, peers, and cultural tools (e.g., books), was the driver of development.

Bioecological Model

In the 1960s and 1970s theorists began to include an increasing awareness of social and environmental influences on development. In this period, Urie Bronfenbrenner articulated a bioecological theory of child development. The theory is based on the foundation that context shapes, and can also be shaped by, development. From the Vygotskian tradition that included the works of Kurt Lewin and James and Eleanor Gibson, the theory suggests that development is driven by interactions between the individual and the individual's social and physical environment. The ecological model of development is still widely used today as a framework for understanding the influences of social and environmental features on physical, social, and cognitive development. The pervasive and devastating impact of violence, war, poverty, abuse, and neglect on children's development are all explained by this theory. So, too, are the influences of public policy. The ecological model includes a nested set of systems from the microsystem, such as a family, the child care center, or the school, to the macrosystem, which includes culture and politics that shape policies.

Other important innovators and theorists whose understanding of child development became the basis for programming include Friedrich Froebel, John Dewey, and Maria Montessori. Froebel established the first kindergarten based on a set of activities designed to meet the developmental needs of the young child. Dewey believed in democratic education and that learning should be grounded in real and purposeful work. Montessori's background as a physician and her observations of children led her to develop a set of materials and activities and programming ultimately leading to the Montessori approach to education.

Importance of Child Development for Early Childhood Education

Understanding what develops, in what sequence, and how to support its development is the basis for the concept of developmentally appropriate practice (DAP). According to the National Association

for the Education of Young Children (NAEYC), a firm grounding in developmental knowledge is critical for early educators. NAEYC's position statement on DAP describes principles of child development that must inform practices and programming for young children. The principles in the DAP statement can be summed up as follows:

- All domains of development are important and they are all mutually influential. For instance, in the subdomain of language development, physical development is necessary because in order to speak, the ability to control mouth and tongue movements and auditory (hearing) ability are critical. Further cognitive development is evidenced in understanding words and remembering what they mean, and one must have relationships with people and things that promote communication. Because of this, children benefit from having a wide range of experiences that challenge all their developmental domains in order to maximize learning. Hearing stories, singing songs, clapping rhymes, looking at books, and experimenting with writing are some of the many experiences that bolster preschool children's language development.

- Much of development follows a predictable pattern with later skills and abilities building on those already established. Thus, development proceeds from the simple to the more complex and sophisticated. For instance, most children learn to crawl, creep, or scoot before they learn to walk. Because of this, early experience matters a great deal and there are optimal periods for learning. This is closely related to a notion of critical periods, times when if an experience does not happen, a child's development will be altered. We know that if children cannot hear, they will not learn to speak and that from birth to 6 months children will learn to ignore sounds of words that they do not hear in their language. As researchers developed an understanding of age-based abilities, it became clear that there are experiences in certain areas that children need in order to develop in an expected fashion. These are known as critical or sensitive periods.

The most extreme example of this is vision. If a baby is deprived of sight, the visual cortex will not develop connections with the brain and the child will never see. If a child cannot hear, it will be difficult for him or her to learn how to speak. However, unlike sight, if a child's hearing is repaired, for example, through the use of a cochlear implant, the child will acquire verbal capacity if he or she is exposed to a rich verbal environment. Some of the experiences that children have early in life have profound effects on their development years later. For instance, attachment, usually thought of in the domain of social development, is associated with children's school success years later.

- Development proceeds at varying rates from child to child and is uneven across abilities. For instance, although most children are walking and talking by around 12 months, there is a wide range in these ages, even for typically developing children. Some children start walking as early as 9 months and some do not take their first step until 14 months. Usually a child does not start to take steps and to talk at exactly the same time; one skill usually precedes the other.

- Development is the interaction between a child's genetic makeup and the interactions he or she has with the environment and the people in it. In this way development is influenced by culture and context. Children's motivation, persistence, initiative, and creativity are shaped by their experiences. The languages spoken around a child influence the language the child learns and how he or she learns to communicate. For instance, the Native American Pima tribe has a genetic susceptibility to diabetes. However, it is the substitution of traditional food and agricultural practices that has caused the diabetic epidemic among the Pima in Arizona; in contrast, those who live in Mexico and practice traditional agriculture and eat traditional foods are not afflicted at higher rates than the population at large.

- Relationships are critical to children's survival. Children's development is maximized when they have stable loving relationships with adults who care for them and when they are supported in

developing friendships. Children must have adults who talk to them and respond when they communicate in order for language to grow.

- Play is an important activity because it supports cognitive, social, emotional, and physical development. Pretending to have a tea party or to command a pirate ship stretches cognitive skills and provides opportunities for language use beyond the utilitarian or mundane.

- Children are active participants in driving their own development. They need challenges where their skills are pushed to grow, but they also need a chance to practice newly acquired skills so that they can develop. Children are active explorers; even on cave drawings in Europe there are marks made by a 4-year-old girl in every room, showing how at the dawn of civilizations children were actively exploring ways to communicate. We see that same push toward creativity and meaning making in 4-year-olds, who, once they learn to write their name, will write it over and over again.

- If a child is encouraged to speak, is listened and responded to in a loving and nurturing way, and given experiences that invite communication, that child will develop a sense of himself or herself as a competent communicator with the courage to take risks and explore the world of language.

These guidelines do not really instruct educators in what to teach; rather, they guide educators in how to teach. In this way DAP is not a curriculum (what is taught) but a pedagogy (how it is taught).

The importance of understanding the principles of child development for the field of early childhood education is based on two major factors: (1) The developmental needs and capacities of a child must be understood in order to plan appropriately for the child, and (2) experience shapes development. The demands of serving both sets of developmental needs—the needs the child has in the moment based on his or her abilities and skills and the need to support the child who is to come—make early childhood programming particularly fluid and dynamic.

The variation in the abilities children have within each developmental domain in the span from birth to school age means that very different types of programming must be offered to the different ages. For instance, small beads and other manipulatives that are appropriate for use by 4-year-olds would be a choking hazard for a 4-month-old. It is also critically important to understand the importance of experiences and relationships to children's development. When early care and education programs are able to support children's physical development, caregivers and teachers are able to provide warm and responsive care and build relationships with children, and provide activities and learning opportunities for children based on what they can currently do, as well as provide activities that are a bit challenging and that build the skills the child will need to meet their next milestone, children's development is supported.

Because effective teaching requires the ability to notice when each child is ready to practice a skill that has just been mastered and when to introduce new materials that will foster the development of new skills for each child, collecting and utilizing assessment information on children in early care and education programs is an essential role for early childhood professionals.

Nota Bene

While an understanding of child development is critical to early childhood education, one must understand how much is known about child development and the limitations of this information. Much of the research that is the basis for child developmental theory and knowledge is from Western samples drawn from majority cultures. Because child development stresses the interaction between the developing person and the environment and culture, more information and data on typical normative development from other cultures is vital. Likewise, the information from work in the medical field and genomics makes it clear that at some point in the future we will be able to better differentiate the impacts of this person–environment interaction and its outcomes on

development. But for now it is clear that optimizing conditions physically, socially, and cognitively is the best approach to supporting the development of young children.

Martha Buell

See also Brain Development; Determinants of Child Development; Developmental Disabilities; Developmental Screening Instruments; Developmentally Appropriate Practice; History of Early Childhood Education in the United States; History of Early Childhood Education Policy; Prenatal Mental Health; Theory to Practice in Early Childhood Education and Care

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CHILD DEVELOPMENT LABORATORY SCHOOLS

Child development laboratory schools are a particular type of laboratory school with a slightly different history and purpose than, perhaps, the laboratory schools that existed at places such as the University of Chicago. Child development laboratory schools arose in the early part of the 20th century out of a need for scholars to engage in deliberate, scientific child study that would contribute to the development of social policy. Over the past hundred years, child development laboratory schools have evolved in structure, function, and auspices. These programs have often struggled in more recent years with justifying their existence and expense, and many that have survived have

redefined themselves. This entry provides a brief history of these programs, describes the current status of child development laboratory programs, and explores future potential roles for these programs.

Definitions

For the purpose of this discussion, child development laboratory schools are defined as those programs housed within a university setting (with or without specific departmental affiliation) that have as their goal a three-part mission of research, service, and professional preparation of students. These three missions may be equal, or one or more may have higher priority in the institution, but all three are present. In many cases, child development laboratory schools have a very long history within the institution, many beginning in the 1920s, often tied to home economics, or psychology, or education, or deliberately interdisciplinary. However, the primary focus at the inception and at present is child study and child development. The importance of these programs continues to be that they are places of scholarly study of children, learning, families, and service delivery. As such, knowledge of child development laboratory schools adds to our understanding of early childhood development, learning, and services.

History and Context

Charles Darwin's work in the 19th century spawned an era of scientific study of human evolution. People such as G. Stanley Hall pioneered such study in the area of child growth and development at Clark University, establishing a center for research and writing about child development. Organizations such as the Child Study Organization and the Committee on Child Development, within the National Research Council, legitimized the empirical study of child development. These entities came about so that scholars could document child growth and development and better understand the field in order to inform education, medicine, and policy.

Among the early movers and shakers in the field of child study, Lawrence K. Frank stands out in the history of child development laboratory schools. An economist, Frank had volunteered with the Bureau of Social Research in New York and was eventually hired by the Laura Spelman Rockefeller Memorial (LSRM) in the early 1920s to oversee the distribution of funds to universities for the purpose of child study. The LSRM was interested in funding research centers that would engage in the study of child development and prepare others to do the same. Frank's vision went beyond the basic funding process. He saw the funding mission as a way to influence a broader social movement by influencing others to improve the lives of children and families.

Frank had some specific criteria in mind for those institutions hoping to receive funds. He believed that the research centers should be multidisciplinary rather than housed in one department, perhaps bringing together psychology, social work, medicine, and education. He also preferred that the institutions be land grant designated because these already had a mission of outreach to the community. In the end, LSRM established funding at institutions such as the University of Minnesota Institute of Child Welfare, the University of California at Berkeley Institute of Child Welfare, Yale Child Study Center, the Iowa Child Welfare Research Station, and Columbia Teachers College Child Study Center. Other child study centers also emerged at about the same time at Bank Street College of Education and Merrill-Palmer Institute, now the Merrill Palmer Skillman Institute. These institutes looked at both child development and aspects of child life. Frank's hope always was that the empirical work done in the laboratories would contribute to the development of policy regarding children and families.

Other child development laboratory programs were funded by different sources. A private benefactor, though not under the auspices of LSRM, funded the Merrill-Palmer Institute, for the original purpose of motherhood training. The primary mission of the institute was to train women to teach in early childhood programs. This laboratory

school employed some of the country's top child development and education researchers before it closed in 1980.

The Bureau of Educational Research in New York City was founded at about the same time through non-LSRM funds, later becoming the Bank Street College of Education. The faculty and researchers involved at Bank Street also contributed to the growing knowledge about child development and instructional practices. The school has evolved and survived over the years to become a leader in early childhood education.

The Yale Child Study Center, an LSRM-funded site, was the home of Arnold Gesell in the early 1900s. Gesell engaged in research that documented normative development of young children. He employed innovative research methods to film his subjects and chronicle their development over time. A guidance nursery was added for the purpose of diagnostic and therapeutic intervention. Unlike the other LSRM-funded sites, the Yale Child Study Center was affiliated with the university's medical school. Changes in leadership eventually influenced the site to become more psychoanalytic in focus, eventually as a full-service psychiatric center for children.

The work of these original LSRM-funded centers, and of the centers funded by other sources, has made profound and long-reaching impacts on our knowledge and understanding of children, families, and life span development. Many of them are still operating today, although with different missions and foci. For instance, the University of California at Berkeley started with a child guidance study just before the Great Depression began. These individuals were studied over decades, looking at their development over time, eventually becoming a serendipitous chronicle of the impact of the Great Depression on children and families long term. The Institute of Child Welfare became the Institute of Human Development. Other centers changed their broader focus to more specific specialization. In all cases, this history is the foundation of child development laboratory schools today.

Current Status of Child Development Laboratory Programs

Over the past 20 years, child development laboratory schools at many institutions have struggled to survive. In difficult times, many universities have examined the cost-effectiveness of child development laboratory programs. Organizations such as the National Organization of Child Development Laboratory Schools have provided a forum for directors and faculty at these sites to provide support and assurance to those struggling to remain viable on their campuses. Conversations among laboratory school faculty revolve around the importance of preserving laboratory schools as places of innovation in research, service, and professional preparation.

In some cases, preserving laboratory schools means revising the way service is provided. Some laboratory schools that had been engaged in traditional programs that provided services to families part-day have become full-day programs; some laboratory schools that were seen as pools of subjects for psychological research have cultivated research that examines aspects such as pedagogical practices; and some of those that have served only university faculty have expanded their reach to serve community children and families. In some cases, the three-part mission has shifted so that professional preparation becomes the first priority and research takes a less important place in the three-part mission. For some, external funding for research has helped them maintain their empirical mission. Certainly, there has been a drift away from Frank's, perhaps unrealistic, expectation that child development laboratory schools have a direct line of influence on social policy. However, these sites continue to be places of child study.

Future Trends

Through necessity, and because there is a belief that child development laboratory schools serve an important function on university campuses, several innovative trends are occurring. These trends locate the work of various child development

laboratory schools in different categories of activity: laboratories of practice, laboratories of service, laboratories of professional preparation, and laboratories for research.

Laboratories of Practice

Several child development laboratory schools have shifted their empirical inquiry to a study of practice in their classrooms. For instance, the laboratory schools at Kent State University and South Dakota State University have engaged in collaborative inquiry. Both groups of faculty have been studying the Reggio Emilia approach and have developed Reggio-inspired practices. They define themselves as schools of inquiry. They have, through technology, participated in book discussions and shared research on practice—in particular, on the process of documenting children's learning. Although their contexts are quite different, they have found growth in their thinking and practices as a result of this long-distance collaboration. In common, they have turned their research function inward, focusing on their own practices rather than serving as a subject pool for other researchers.

Laboratories of Service

The notion of child development laboratory schools as places housed within the university has been challenged by faculty at several universities as they become involved in community programs as researchers and evaluators. For instance, faculty at the University of Oklahoma have developed a healthy research agenda around a community Head Start partnership. Beginning first as evaluators of the program, they have become involved in research related to the outcomes but thoroughly connected with the partnership. It serves the purpose of providing a context that involves research and service and has the benefit of being delivered in multiple sites across the country, allowing for cross-site comparisons. Such revisioning of the laboratory concept allows for research that has direct service implications.

Laboratories of Professional Preparation

One of the long-standing criticisms of child development laboratory schools is the exclusivity of service. In many cases, the participants in the program are children of faculty and staff, often not a very diverse group. Consequently, criticisms focus on the ability of research done in a laboratory setting to be generalizable to a broader population. In some instances, laboratories have revised their admissions policies to be more inclusive, serving the community at large. In one case, a laboratory chose to partner with a local school district in order to serve 3-year-old children with special needs who were not being served in the community. This arrangement served both the university and the school district. It provided the university early childhood program with a setting for professional preparation where college students could work in an actual inclusive setting, and it provided service to previously unserved children and families. The overall potential for professional preparation is unlimited.

Laboratories of Research

The most traditional function of the child development laboratory school has been to conduct research. However, rather than serving as sites for recruitment of subjects, laboratories have collaborated with researchers to develop studies that are embedded in the practices of the school. For instance, the University of Illinois Child Development Laboratory director has been a co-investigator involved in a study of nutrition and its relationship to childhood obesity within the classroom at the school. Rather than being an observer of the research, he has served as an active participant.

Potential for the Future

Since the beginning of child development laboratory schools almost a hundred years ago, there has been much change in what is known, what we want to know, and how we come to know it. The child development laboratory school remains a

viable option to do research, develop professionals, and provide innovative service to families and children. What has changed is the way these schools do all three parts of the mission. The potential for laboratory programs seems endless given the possibility of communicating quickly, across space, and across time. For instance, technology allows programs to collaborate on innovations in teaching across university sites. It also allows programs to study a similar social issue across multiple sites and contexts, sharing data and maximizing their empirical design (e.g., by collecting more data). There is potential for partnering with service providers to expand the research conducted at university sites and study the results across different populations.

Nancy Barbour

See also Bank Street; Early Childhood Education; Early Childhood Inclusion; Head Start; History of Early Childhood Education Policy; Interdisciplinary Models; Reggio Emilia Approach

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CHILD OBSERVATION RECORD

The Child Observation Record (COR) is an assessment tool that teachers and other observers use to observe, record, and score young children's development. It was originally designed for use with the HighScope curriculum, but it can be used with any child development curriculum. The instrument, revised in 2013 and renamed COR Advantage, is comprised of 36 items in nine categories or domains of early learning. Using COR Advantage, the assessor observes a child's behavior to identify developmentally significant activities and categorize these activities in the relevant domain and item of development and the child's developmental level on the item. The instrument briefly describes each domain and item. To help

assessors score children's performance with the instrument validly and reliably, it provides illustrative examples of each developmental level.

HighScope Educational Research Foundation developed preschool and infant-toddler versions of the COR in 2003, then expanded and consolidated them into the 2013 version, which spans birth through kindergarten. Each version has evidence of reliability and validity. COR Advantage focuses on children's spontaneous activities throughout the program day rather than their performance on tests, thereby permitting a broader and more authentic perspective on their development.

Mapping a Child's Development

Assessors using COR Advantage begin by taking notes (anecdotes) of their observations of children's behavior in the program over several weeks to several months. Each note is dated and identifies the child who acts, what the child does (including any adults or other children involved), and when and where the child does it. Each note is then scored according to its content domain, the relevant item within that category, and the child's developmental level on an 8-point scale. An anecdote may be scored in more than one category. For example, an anecdote for Lucas might read: "In the block area on February 17, Lucas, Nera, and Katelyn built a castle with large blocks; Lucas suggested they build a bridge and a tower, asked Katelyn to hand him some additional blocks, and showed her where to put them." This example shows Lucas's development in at least two domains:

1. In the social and emotional development domain, on building relationships with other children (item F), he played collaboratively with two or more other children by contributing ideas and/or incorporating ideas from other children into their play (level 5).
2. In the creative arts domain, on pretend play (item AA), he played with two or more children, stepping out of the pretend play to give directions to another person (level 5).

Teachers typically complete COR Advantage three times in a school year—fall, winter, and spring—although it can be completed more or less often depending on the program's schedule and reporting requirements. Repeated measurement, at least in the fall and spring, are critical to assess children's development over time. Assessment over time renders a measure of children's development, rather than merely their developmental status. It is reasonable to attribute this development over time to the program the child experiences, not merely to advancing age, although this conclusion is strengthened by comparing change scores with those of children from similar backgrounds who did not have comparable program experiences. COR Advantage scores at the end of preschool can also be used to assess a child's readiness to enter kindergarten by benchmarking the child's scores against data collected on other children in that age group. COR Advantage is also useful to assess children with special needs, as developmental progress can be tracked, including with reference to individualized education program (IEP) goals, without being bound by age norms.

The nine domains and 36 items of COR Advantage are as follows.

1. *Approaches to learning*: initiative and planning; problem solving with materials; and reflection
2. *Social and emotional development*: emotions; building relationships with adults; building relationships with other children; community; and conflict resolution
3. *Physical development and health*: gross-motor skills; fine-motor skills, and personal care and healthy behavior
4. *Language, literacy, and communication*: speaking; listening and comprehension; phonological awareness; alphabetic knowledge; reading; book enjoyment and knowledge; and writing
5. *Mathematics*: number and counting; geometry—shapes and spatial awareness; measurement; patterns; and data analysis

6. *Creative arts*: art; music; movement; and pretend play
7. *Science and technology*: observing and classifying; experimenting, predicting, and drawing conclusions; the natural and physical world; and tools and technology
8. *Social studies*: knowledge of self and others; geography; and history
9. *English language learning*: listening to and understanding English; and speaking English. (These items are only for English language learners.)

Versions and Their Reliability and Validity

COR Advantage (2013) is designed to be used with young children from infancy through kindergarten age with each item scored along a developmental continuum. The previous preschool and infant-toddler versions were published in 2003. It was originally published on paper and, soon after, on CD-ROM. As use of the Internet became commonplace throughout the United States and in other countries, the online version became dominant and the previous versions were phased out.

COR Advantage items are consistent with HighScope's multileveled key developmental indicators, the Head Start Child Development and Learning Framework, Common Core State Standards for kindergarten, various state early learning standards, and the guidelines of professional content-specific education organizations. The first draft of the COR Advantage received high ratings from 26 internal and external content and child development experts for its comprehensiveness, feasibility, appropriateness of domains, representativeness of items within each domain, accuracy of developmental scoring progressions, and clarity of descriptions and examples given.

Using 212 videos and vignettes developed by HighScope staff to represent all the levels of development in the nine COR Advantage domains, COR Advantage was field tested with a sample of 71 early childhood teachers from

diverse programs in Michigan in 2012. Item-level difficulties were found to be ordered as expected, teachers did not vary significantly in the ease or severity of their ratings, and the scale functioned as expected. Domains and items required no revisions, but a few levels that did not fit these expectations were revised. Initial online reliability assessment found 85.7% exact agreement on COR Advantage items. These same teachers also completed the COR Advantage in their classrooms, leading to further minor adjustments to the levels and training. Development and assessment of validity and reliability continue at this writing, with plans to use COR Advantage with a nationally representative sample of teachers and children, pending funding.

The Preschool COR used previously was published following studies of its statistical properties when collected by Head Start teachers in a Head Start grantee in 2002. On a 1 to 5 scale, the average total scores were 2.49 in the fall and 3.47 in the spring. Alpha coefficients of overall internal consistency for 32 items were .91 to .94, with domain coefficients ranging from .75 to .88. Correlations between scores for 10 pairs of teachers and assistant teachers were .73 for the total and .69 to .79 for the domains. A confirmatory factor analysis identified four factors that fit these domains. COR total scores correlated as expected (.46 to .52) with the Cognitive Skills Assessment Battery and children's ages (.31) and no significant correlation with gender.

The Infant-Toddler COR was developed in consultation with 38 practicing infant-toddler caregivers. Its statistical properties were studied with 20 caregivers, who observed 50 infants and toddlers (4 to 36 months old) in seven child care centers and one family child care home, following 2 days of training. The alpha coefficients of internal reliability for their scores were .99 for the total and .92 or .93 for the domains. To assess interobserver agreement, 18 of the caregivers worked in 9 pairs to observe 42 children and score them independently. The correlations between the scores of the two groups of pair members were .93 for the total and .83 to .91 for the domains. COR total scores were

correlated .83 or higher with mental and motor age scores on the Bayley Scales of Infant Development on 30 children and remained significantly positive after removing the effect of child's age.

The Position of the COR

As a method of systematic observation, COR Advantage stands in sharp contrast to standardized educational testing, in which individual students are asked by an adult to answer a series of questions or perform a set of tasks, each of which has a "correct" answer. In the observational method, children's spontaneous behavior determines what is assessed. In the standardized measure, the behavior is prescribed by the test procedure. The advantage of standardized educational testing is that it is efficiently administered, and a technology of educational measurement has developed over the past century to support it, including sophisticated mathematical procedures for assessing its reliability and validity. However, it purchases these advantages at the expense of its ecological validity (ability to truly represent a child's ability) and breadth of what it can assess.

The assessment methods employed by COR Advantage are rooted in the systematic procedures of child development research and the daily observations teachers make in order to plan effective educational experiences for young children. Rather than performing on an adult-defined test, students engage in their typical behavior; assessors observe this behavior and draw out its developmental significance. Children are not asked to perform at certain levels of development or difficulty. Rather, they behave as they usually do, and the observer assesses the levels of development at which they are behaving.

Systematic observation has two enormous advantages over standardized educational testing. First, it has higher ecological validity because it does not intrude into the child's environment. A standardized test lacks ecological validity because it temporarily replaces the child's ordinary environment with the artificial test environment. The second advantage of systematic observation

of children's behavior is that it offers a much more comprehensive view of the many dimensions of children's development than does testing. Testing is limited to the knowledge and skills that involve single right answers—for young children, some aspects of literacy, mathematics, social studies, and science. Systematic observation is far more powerful than testing for assessing approaches to learning, social and emotional development, creative arts, and the aspects of literacy, mathematics, social studies, and science that do not involve single right answers, such as oral comprehension, solving applied mathematical problems, appreciating diversity, and applying the scientific method.

Observational assessment has other advantages over tests as well. When conducted by caregivers and teachers, the observations occur in the course of the normal program day, and time does not need to be carved out of the regular routine to conduct testing. The observation notes provide valuable information that allow adults to scaffold (support and gently extend) learning for individual children and for the class as a whole. Moreover, information about a child's development (generally without scores attached) is easily shared with parents, along with examples and strategies for supporting a child's learning at home.

Several other early childhood assessment systems resemble COR Advantage more than they resemble standardized educational tests. One is the Work Sampling System, developed by Sam Meisels and his colleagues. Unlike COR Advantage, it centers on elementary-school-age children rather than younger children, and as its title suggests, it focuses on children's products rather than their behavior. Another is Teaching Strategies Gold, designed for Head Start and other preschool programs. Unlike COR Advantage, which uniquely defines each level within an item, Teaching Strategies Gold defines every other level, leaving it to the assessor's discretion to determine when a child's behavior falls into the undefined middle ground. Both Work Sampling and Gold have some evidence of their reliability and validity.

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See also Developmentally Appropriate Practice; Literacy Assessment; Observational Assessment; Social Skills Assessments

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CHILD-INITIATED LEARNING

Child-initiated learning is learning activity that children initiate themselves, as opposed to learning activity that is initiated and directed by adults. Children plan and select their own activities, and adults participate rather than lead them. Child-initiated learning involves cognitive, social, and physical learning that is within, but desirably near the upper limit of, each child's abilities. It involves the inside-out learning of discovery and thinking about experience and the outside-in learning that comes from interaction with other people. Rather than controlling these activities, adults share control with children.

To support child-initiated learning, adults set up the classroom in learning centers or activity areas and give children time in their daily routine to plan and choose their own activities. Child-initiated learning is widely regarded as a critical component of early childhood education, as indicated, for example, by its role in the description of developmentally appropriate practice by the National Association for the Education of Young Children and the requirement for a balance between teacher-directed and child-initiated activities in the

Head Start program performance standards. Thinkers such as American philosopher John Dewey, Swiss philosopher and psychologist Jean Piaget, and Russian psychologist Lev Vygotsky developed the idea of child-initiated learning. Several research studies support the value of including child-initiated learning in early childhood education. This entry first explains what constitutes child-initiated learning. It then discusses the role of adults in child-initiated learning, what the research on child-initiated learning shows, and organizational support for child-initiated learning.

While child-initiated learning may be simply distinguished from adult-initiated learning, activities may be viewed on a continuum of relative influence by children and adults.

- At the adult-initiated extreme so common with older children, the teacher tells the children to take a textbook out of their desk and open it to a designated page and expects them all to comply immediately. An example with a little more child initiation would be the teacher asking questions with single right answers to which children volunteer the answers; with still more child initiation, the teacher asks open-ended questions to which children volunteer their own answers.

- At the child-initiated extreme, the child obtains raw materials and makes something of his or her own design. At a more teacher-initiated level common in early childhood education, the teacher communicates to children that it is time to select or plan their own activities and they do so. Somewhat more teacher-initiated, the teacher hands out paper and crayons and has children draw what they wish. Still more teacher-initiated, the teacher hands out paper with the outline of a picture, and children color it, staying within the lines to varying extents.

In a 1997 study of the HighScope preschool curriculum, Lawrence Schweinhart and David Weikart suggested distinguishing between high and low degrees of teacher direction of activities and

high and low degrees of child initiation of activities, creating a two-by-two matrix with four cells: High teacher direction and low child initiation characterizes the typical teacher-directed program; low teacher direction and high child initiation results in the traditional nursery school program; low teacher direction and low child initiation leads to custodial care; and high teacher direction and high child initiation, coordinated properly, leads to a developmental interaction program, such as the HighScope curriculum.

Child-initiated learning involves cognitive, social, and physical learning. For example, a child who gives another child three blocks in response to a request is engaging in an activity that has mathematical, social, and physical dimensions. The educational challenge is to maximize the learning that takes place along these and other dimensions. Or, following Vygotsky, the educational challenge is to steer activities toward children's zones of proximal development, the level of difficulty at the upper edge of the child's current level of development.

Another relevant distinction is between inside-out learning and outside-in learning. When children initiate their own learning, they are in an ideal position for inside-out learning, from discovery and thinking about their own experience. They are also open to outside-in learning, from interactions with other children and adults. To optimize outside-in learning in child-initiated learning, the adult must be skilled at engaging in interactive instruction, for example, using new vocabulary words in talking with children, having children ask the adult what the words mean, and then explaining the words to the children.

Child-initiated learning activity is similar to children's play but emphasizes the learning and intentionality of the activity, whereas play is the spontaneous activity of children regardless of its learning or intentionality. Because of these features, it is a better term than *play* to emphasize and delineate the educational value of children's activity. Children's play may include learning and intentionality, but then again it may not, and the openness of the word *play* in this regard can lead

to miscommunication among those concerned about the educational value of children's activity.

How Adults Can Support Child-Initiated Learning

The role of the adult supporting child-initiated learning is quite different from the role of the adult initiating and directing children's learning. When adults initiate and direct children's learning, they expect to be in control of the activity, controlling their own activity and closely directing children's activity, recognizing that children occasionally give wrong answers, misbehave, or fail to pay attention. When adults support child-initiated learning, they do not expect to be in control of the activity. Rather, they share control of the activity with the children; both adults and children influence the activity. The adult follows and is responsive to children's leads, possibly asking questions or making suggestions while doing so. The adult's role shifts from provider of knowledge and center of attention to participant, facilitator of learning, and coach.

From a broader perspective, adults in early childhood programs establish the spatial and temporal context for child-initiated learning. Adults set up the classroom or other learning environment to support such learning. The contrast with teacher-directed instruction should be clear. In the typical teacher-directed classroom, the teacher has a desk in the front of the room, and children sit in rows of desks facing the teacher. Classrooms supporting child-initiated learning have learning centers or activity areas around the room. These areas might be thought of as sub-rooms, in that they are bordered and delineated by the area's equipment. One area might be for drawing and painting materials and equipment; another might be for books and other print materials; a third might be for dress-up clothing and equipment; a fourth might be for large and small blocks; a fifth might be for computers with age-appropriate software. Children initiate their own learning by selecting and going to one of these areas, alone or with others, selecting materials there, and using the materials as they

choose. They can simply choose to do these things, or adults can have a planning time in which children decide, in consultation with an adult, not only what they are going to do but how they are going to do it.

Adults also set up the program's daily routine to support child-initiated learning as well as adult-directed learning. In exclusively teacher-directed classrooms, the daily routine is simply a schedule of teacher-directed sessions—reading, writing, mathematics, science, social studies. In classrooms supporting child-initiated learning, one or more sessions are designated for such learning—play time or work time. Classrooms using the HighScope curriculum, for example, precede this session with child planning time, in which children make plans for activities in small groups led by teachers, and follow the work session with recall or review time, in which children report back to their small group and teacher how their plans worked out and what they achieved. Outside time is also traditionally a time for child-initiated learning. In the context of teacher-directed classrooms, outside time constitutes a recess from teacher-directed activity, and the teacher reverts to a passive, monitoring role. In addition to these sessions, classrooms supporting child-initiated learning have other, somewhat more teacher-directed sessions, such as small-group time, whole-group time, cleanup time, and snack time. These sessions as well can be designed so that children take greater initiative within them, for example, being assigned to obtain and distribute snacks or juice.

Theoretical and Research Evidence for Child-Initiated Learning

The rationale for child-initiated learning may be found in the ideas of Dewey, Piaget, and Vygotsky. In books such as *Experience and Education*, Dewey articulates a way of thinking about education that centers on experiential learning and social interaction. In books such as *The Psychology of the Child*, Piaget sees the development of one's knowledge in the interaction between thinking

and action. In his book *Mind and Society*, Vygotsky articulated his idea of the child's zone of proximal development.

The HighScope Preschool Curriculum Comparison Study provides longitudinal experimental evidence of the advantages of including child-initiated learning in early childhood programs. This study used randomization techniques to assign 68 children living in poverty to three types of preschool programs: one that focused exclusively on teacher-directed instruction, one that provided a traditional nursery school program giving children a lot of freedom to do what they wanted, and one that provided the HighScope developmental interaction curriculum. Although the direct instruction group had an early but temporary edge in academic preparation, the other two groups had several long-term social advantages: They required much less treatment for emotional problems while they were in school and committed fewer felony crimes as young adults.

In 2002, Rebecca Marcon studied the influence of three preschool models on the later school success of low-income children in an urban school district. Six years after their preschool program experience, children who had attended child-initiated preschool classes earned significantly higher grades than children whose preschool experiences had been academically directed.

An earlier study by Deborah Stipek, Rachelle Feiler, Denise Daniels, and Sharon Milburn compared the achievement and motivation of children in child-centered and didactic, highly academic preschools and kindergartens. Those in academic programs had significantly higher reading achievement but lower ratings of their own abilities and expectations for academic success and more dependency on adults.

Endorsements of Child-Initiated Learning

In its position statement on developmentally appropriate practice, the National Association for the Education of Young Children acknowledges and endorses the value of child-initiated learning.

It notes that play is critical to children's cognitive and social development, especially their development of self-regulation, and that children's experiences shape their motivation and approaches to learning, which shape their learning and development. It advocates teachers presenting children with opportunities to make meaningful choices, especially in child-choice activity periods; offering daily and weekly schedules that provide children with extended blocks of time for sustained play, investigation, exploration, and interaction; and providing experiences enabling children to engage in play that stretches their boundaries.

The U.S. federal Head Start performance standards call for a developmentally appropriate approach to child development and education that provides "a balanced daily program of child-initiated and adult-directed activities" (Standards, 2009, para. 1304.21).

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See also Child-Initiated Play; Curriculum and Early Childhood Education; Initiative and Industry; Play, Benefits of; Play and Early Childhood Education

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CHILD-INITIATED PLAY

Child-initiated play is freely chosen and directed by the child. The impulse for such play is intrinsically motivated and not linked to external rewards. Adults may support children's play, but if they are providing the story line or directing the play, then it is no longer child-initiated. Child-initiated play allows children to pick themes that are meaningful to them and to get to know themselves and the world around them. Such play has been widely linked to the development of creativity, self-regulation, problem solving, and physical and social capacities. It takes many forms, but it can be roughly grouped into three categories: physical, social, and make-believe play.

Child-initiated play grows richer and more complex as children develop. Children need ample time to develop such play, but today's children are often blocked from playing by a number of obstacles, including large amounts of screen time, parental fears, and unsafe neighborhoods. As a result, many children are play-deprived, and there is growing concern that their overall health and well-being are suffering. This entry first discusses the stages of child-initiated play and the types of play in which young children engage. It then discusses the importance of children being able to

take risks in play, the reasons why child-initiated play has not been valued in recent years, and the reasons why it needs to be restored.

Stages of Play

Play begins simply with the infant playing with fingers, toes, and simple objects. A few years later the same child can climb high structures, build complex houses, and balance on logs. Play grows increasingly complex as children's capacities grow. At the same time, their overall development is stimulated by play. Play and child development support each other.

One can see children's physical play develop over time as their physical strength, balance, and coordination develop. Less visible, but of great importance, are the changes in children's make-believe play. The very young child is a realist. When the 1-year-old takes out pots and pans, he or she is engaging in the physicality of the play. The child does not yet have the language or the capacity for make-believe to weave the objects into a story. Two-year-olds begin make-believe play by choosing familiar scenes such as pretend cooking or car play, but they are still strongly linked to reality. Offer a 2-year-old a dish of sand and say, "Here's a birthday cake for you," and the child is likely to eat it. Offer it to a 3-year-old and the child may ask, "It's make-believe, right?" They are just entering the world of make-believe play. The 4-year-old accepts the cake with confidence, decorates it with twigs and flowers, and holds a party. She knows perfectly well that it is make-believe. The 6-year-old goes a step further and can picture her play internally. She can see the cake in her mind's eye and does not need the props. The door to imagination has opened.

Likewise, social play develops over time. In the past, children in the elementary school years were allowed to play freely with their peers and created very elaborate imaginative worlds for themselves. A good example is described in the children's book *Roxaboxen*, by Alice McLerran. It is based on a real experience where a group of neighborhood children played together for years on an unused piece of land near their homes. They built simple houses outlined with stones and other materials and adopted very individualized roles.

Types of Play

A playful, well-balanced child engages in many forms of play that can be divided into three main categories: physical play, social play, and make-believe play. Each has a number of subcategories. In rich play scenarios, all three types of play are present and cross-fertilize each other.

Good play environments provide opportunities for all types of play to occur in ways suited to different ages. Yet most playgrounds today only offer opportunities for large motor play. Open-ended play materials, often called loose parts, can be added to play spaces so that children can change the environment daily to meet their needs. Their play becomes more varied and complex. The integration of loose parts, both natural and manufactured, with built equipment is the approach used in adventure playgrounds in the United Kingdom, Japan, and other countries. Only a few are found in the United States, but there is growing interest in opening more. Adventure playgrounds are rich in child-initiated play and are overseen by playworkers who support children's play without dominating or directing it. A similar approach is taken by schools and parks that store play materials in sheds or pods that can be opened daily by adults. The inclusion of simple, open-ended materials, both natural and manufactured, greatly enlarges children's play experiences.

Physical Play

Children readily engage in large motor activities such as swinging, climbing, and balancing. They use whatever materials are at hand, including built equipment or boulders, hills, and trees. With simple props they dress themselves up and build houses and forts of all kinds. In the process they develop small motor skills with their hands and large motor skills with their whole bodies.

Rough and tumble play is another common form of physical play. It can look aggressive to the unschooled eye, but while engaging in this form of play children do not intend to hurt each other. Their bodies usually remain soft and rounded whereas in aggressive play they become harder and their gestures more pointed.

Children actively use their senses in play and relish having a wide range of materials to explore through sight, sound, touch, smell, and taste. With their hands and sometimes their whole bodies they explore sand, earth, water, and mud. They experience contrasting textures from rough stones to soft silk. They forage for fruits and vegetables growing in gardens and note the many smells of their environment.

In mastery play children repeat the same activity again and again until they have learned it. They may turn somersaults or practice tying bows, but as long as they are choosing the activity and directing it, then it is play. Generally, children will stick with an activity far longer if they've chosen it than if an adult has assigned it to them.

Social Play

Children can play alone but very often they seek out other children and adults to play with. Their earliest social play may be a game of peek-a-boo or a grown-up may tweak their toes to "This little piggy went to market." Such social play is initiated by the adults, but soon young children give their own play cues, rolling a ball to another person or dropping an object to be repeatedly picked up by a willing adult.

Toddlers enjoy playing with others but generally do so through parallel play. They play near one another but usually do not integrate their play with that of another child. When they do interact playfully, there may be a certain amount of grabbing, hitting, and even biting. They rarely inflict any serious harm on one another, and they gradually develop self-control and the use of language to resolve differences.

Three-year-olds begin social play in earnest, albeit a bit clumsily at first and with many small disagreements. By kindergarten most children have become skilled social players and develop fairly complex play scenarios that often begin with the words, "Let's pretend." As the play develops, there is a great deal of social negotiation and rule-making that resolves differences and allows the play to continue over long periods of time.

A generation ago, when elementary-age children had more freedom to play on their own, groups of

children would play together from morning until evening. No one wanted the play to end, so the children were highly motivated to work through any social problems that arose.

Creative Play

Make-believe play calls for a high degree of creativity. Children take whatever object is at hand and transform it into whatever they need. A stick becomes a fishing pole, a sword, a violin bow, or some other object. In make-believe play children take on any role they fancy, from being a parent or child to an astronaut or a doctor, or they can become a wild animal or a pet. Children use role-playing to work through difficult situations in life, to prepare themselves for adult roles, or simply to explore relationships and have fun.

Children integrate all forms of art materials into their creative play: painting, sculpting, making music, developing puppet shows, and much more. They play with language, telling stories, writing plays, making up rhymes and poems, and changing the words to well-known songs and verses.

Taking Risks in Play

There is a difference between hazards and risks in play. Hazards are unexpected problems that children cannot anticipate or risk assess for. Perhaps a piece of equipment is poorly designed or has a broken part. Or there is broken glass hidden in the grass. It is up to adults to inspect the equipment on a regular basis to be sure it is safe. In contrast, risks are visible to children who decide whether and how to climb a tree or leap across a stream.

Risk-taking is an important part of child-initiated play, for children continually set themselves new challenges that stretch their capacities. There is some risk of injury with such play, but children experienced in play are amazingly adept at assessing risk and avoiding serious injury. They know their own abilities and weigh them against the external circumstances. Life is full of risk—from crossing busy streets to facing earthquakes and tsunamis—and it is important that children build

up their risk-assessment skills through play. Probably the greatest risk of all is to grow up not knowing how to assess risk, and this seems to be happening to many children today. Typical play spaces offer as little risk as possible, rather than offering as much risk as children can handle.

No one wants to see a child injured, but it has been long recognized that a certain amount of injury goes hand in hand with being a playful child. The injuries experienced in play can usually be treated with simple first-aid measures, although occasionally a child may break an arm or a leg while playing. Fortunately most children heal quickly. Lady Allen of Hurtwood, who developed many adventure playgrounds in the United Kingdom, is often quoted as saying that it is better for a child to have a broken limb than a broken spirit. To deprive children of play through fear of injury can stifle a child's spirit for adventure, risk, and creative growth.

Disappearance of Play

Fear of injury and lawsuits are among the reasons adults are reluctant to let children play freely today. Other reasons include not wanting children out of sight for fear they will be abused or kidnapped, or because of heavy traffic or a pattern of violence in the neighborhood. Children spend long hours indoors with screens or are enrolled in many adult-directed activities. In the case of preschool and kindergarten children, many programs now resemble the elementary school classrooms of the past with a strong focus on instruction and little time for child-initiated play. Overall, child-initiated play has not been highly valued in recent decades, but numerous articles, films, and books seem to be changing the public attitude. Parents want more play time for their children but are not sure how to accomplish that, given time restrictions and safety concerns.

In addition, teachers, camp directors, and others who support children's play indicate that many children lack play experience and need help to become strong players. They report that many children become active players within a few weeks once they realize it is allowed and even encouraged. Other

children may require intervention by skillful adults in order to play.

Increasingly, there is concern about the ill effects of play deprivation. Children, even in preschool, show serious signs of stress, anxiety, depression, and behavioral disturbances. By certain measures, creativity levels have declined, and social skills also seem to be declining. The loss of child-initiated play is not the only factor, but it is considered to be a major one. Children suffer from a dual problem of being under more stress than they can handle and of being deprived of play, which is their primary way of dealing with stress.

Fortunately, many individuals and a number of organizations and government agencies are taking a fresh look at play and encouraging children to play, particularly outdoors in nature. Among them are the Children and Nature Network, Nature Explore, the International Play Association, the U.S. Play Coalition, Pop-Up Adventure Play, KaBOOM!, and the Alliance for Childhood.

Joan W. Almon

See also Creativity; Peers and Play; Play, Curriculum, and Pedagogy; Play and Early Childhood Education; Rough and Tumble Play

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CHILD-PARENT CENTERS

The Child-Parent Center (CPC) education program is a school-based early childhood intervention that provides comprehensive educational and family support services from preschool to third grade to children in predominately economically disadvantaged neighborhoods. The program was designed to improve children's school readiness and achievement and strengthen parent involvement and engagement in learning.

CPC was established as a response to three major problems in Chicago's West Side neighborhoods of North Lawndale and West Garfield Park in the mid-1960s: low rates of school attendance, family disengagement, and low student achievement. Only 8% of sixth graders in area schools were at or above the national average in reading achievement. (For more on this, see *Success in Early Intervention: The Chicago Child-Parent Centers* by Arthur Reynolds, published in 2000.) Based in part on a survey of neighborhood residents, Lorraine Sullivan, schools superintendent for District 8 on Chicago's West Side and CPC founder, believed that the best solution was to design an early childhood program with parents as partners in children's education. The Child-Parent Education Centers opened in May 1967 in four sites serving the most disadvantaged areas of the city. Expansion began soon afterward.

By approving the establishment of CPCs in 1966, the Chicago Public School District was the first in the nation to allocate funds from Title I of the Elementary and Secondary Education Act of 1965 to preschool education. CPC is the second oldest federally funded early childhood program (after Head Start) and the first federally funded comprehensive PreK–3rd program.

Program Elements

As described by Sullivan, the original goal of the program was to “reach the child and parent early, develop language skills and self-confidence, and to demonstrate that these children, if given a chance, can meet successfully all the demands of today's

technological, urban society” (Naisbitt, 1968, p. A; see also Sullivan, 1971). CPC emphasizes five program features: early educational enrichment beginning no later than age 4, parent involvement, a structured language and literacy instructional approach, health and social services, and continuity between preschool and the early grades (Reynolds, 1994; Reynolds, Temple, & Ou, 2003).

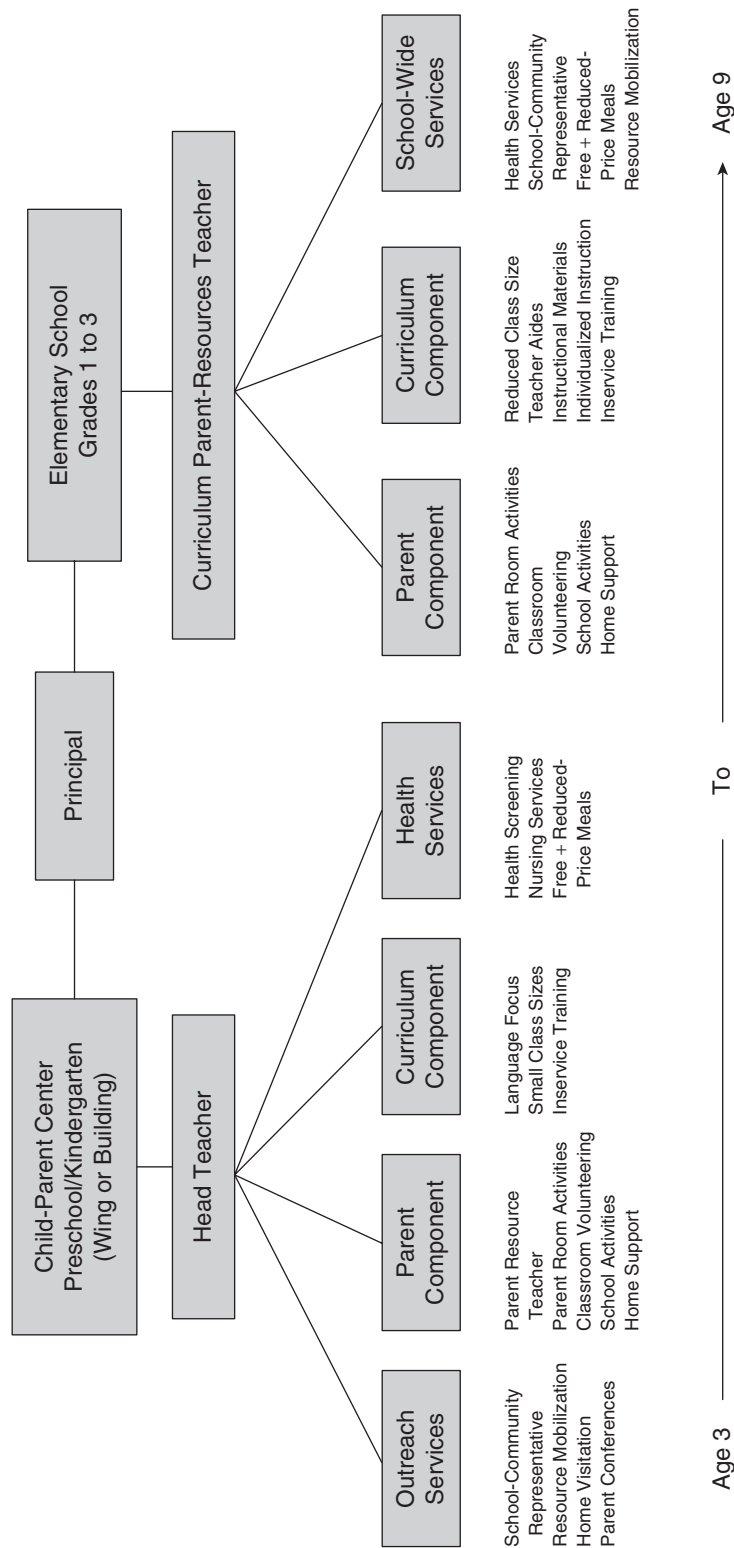
The program rationale is that children's school readiness and achievement can be enriched with a whole-child approach to instruction and intensive family support activities in the parent resource room, the school, and the community (Graue, Clements, Reynolds, & Niles, 2004). Under the guidance of the head teacher working in collaboration with the school principal, CPCs provide comprehensive services in the domains of education, health, social support, and family support. As shown in Figure 1, the head teacher directs overall program and instructional supports while the parent resource teacher runs the parent involvement program. The school-community representative conducts home visits and mobilizes resources for families at home and in the community. A school nurse, school psychologist, speech therapists, and clerk have routinely provided support services (Reynolds, 2000; Sullivan, 1971).

Full- or part-day preschool classes for 3- and 4-year-olds are limited to 17 per class with a certified teacher and teaching assistant. Kindergarten to third grade services are provided in classes limited to 25 with teaching assistants in each class. The organizational structure is one of three types: (1) preschool to third grade services co-located in the same school, (2) preschool services in a center in close proximity to the school, and (3) community-based approach in which the preschool is many blocks from the elementary school into which children matriculate.

Effects of CPC Participation

There is strong evidence of positive effects from CPC participation, including short-term gains in school readiness and achievement up to third grade, intermediate-term effects on reading and math achievement and need for school remedial

Figure 1 Child-Parent Centers Program Organization, Element, and Services From Preschool to Third Grade



Source: Reynolds, A. J., Temple, J. A., White, B., Ou, S., & Robertson, D. L. (2011). Age 26 cost-benefit analysis of the Child-Parent Center early education program. *Child Development*, 82(1), 379–404. doi:10.1111/j.1467-8624.2010.01563.x Figure on p. 403. © 2011 The Authors. Child Development © 2011 Society for Research in Child Development, Inc. All Rights Reserved.

services, and long-term gains in educational attainment, socioeconomic status, and health. There is also evidence that participation is associated with crime prevention (including reduced delinquency and arrests), increased rates of high school graduation and college attendance, and a variety of indicators of adult well-being (i.e., economic, social, and health behavior). Cost-benefit analyses have also been completed. Because most of the studies use data from the Chicago Longitudinal Study (CLS; Ou & Reynolds, 2006; Reynolds, Temple, Robertson, & Mann, 2001; Reynolds, Temple, White, Ou, & Robertson, 2011), a summary of its background and validity attributes follows.

The CLS is a prospective investigation of 1,539 children who participated in early childhood programs in the Chicago Public Schools in the mid-1980s. The sample included the complete cohort of 989 children who completed preschool and kindergarten in all 20 CPCs in 1983–1986 and 550 low-income children who did not attend the program in preschool but participated in a full-day kindergarten program in five randomly selected schools and in those affiliated with the CPCs. Thus, the comparison group was enrolled in the usual early childhood interventions available for low-income children in the Chicago public school system. School-age services were provided in first to third grades in affiliated schools regardless of children's preschool or kindergarten participation. The comparison group matched the program group on age, eligibility and participation in intervention, and neighborhood and family poverty. Nearly 90% of each group has been successfully followed into adulthood to assess effects on a wide variety of measures of well-being.

The major effects of CPC as reported in previous studies are summarized in the remainder of this section (see Reynolds, 2000). Table 1 summarizes key program impacts for the preschool component in both group differences and effect sizes.

Relative to the comparison group, CPC preschool participants began kindergarten at significantly higher levels of school readiness as assessed by the cognitive composite of the Iowa Tests of

Basic Skills (effect size [ES] = .63 standard deviation [SD]). For example, 47% of the CPC group was at or above the national norm in readiness compared to 25% for the comparison group. Compared to participation for 1 to 3 years, participation in the total program from preschool to third grade was associated with higher reading and math achievement at the end of third grade (ES = .55 SD). Achievement test scores, as measured by the Iowa Tests of Basic Skills, showed a consistent pattern of benefits to age 15 for preschool participants and for children participating in the total program from preschool to third grade (Reynolds & Temple, 1998).

Parent Involvement and Family Support

CPC participants had higher levels of parental involvement in school as rated by classroom teachers and by teachers and parent jointly (Miedel & Reynolds, 1999). Involvement in school was further increased by participation from preschool to third grade (Reynolds, 2000). Preschool participation and extended participation from preschool to third grade also was associated with reductions of 50% or more in substantiated child maltreatment over ages 4 to 17.

Remedial Education

By age 18, the percentage of children receiving special education services or retained in grade was substantially lower in the program group than in the comparison group. For preschool, 14.4% of the CPC group received special education services compared to 24.6% for the no-preschool group. Special education rates for children who were in the program from preschool to second or third grade compared to those who were not were, respectively, 13.5% versus 20.7%. Rates of grade retention were reduced by 30% to 40% or more for all program comparisons (Reynolds et al., 2011).

Delinquency and Crime

CPC preschool participants had a significantly lower rate of juvenile arrest (16.9% vs. 25.1%),

Table 1 Selected Effects of Preschool Participation in the Child-Parent Centers

<i>Domain and Measure</i>	<i>Preschool Group (n = 950)</i>	<i>Comparison Group (n = 523)</i>	<i>Difference</i>	<i>Effect Size</i>
School Achievement/Performance				
Met national norm on cognitive composite—age 5, %	46.7	25.1	21.6*	0.59
Met national norm on reading achievement—age 14, %	35.0	22.0	13.0*	0.38
High school completion by age 21, %	61.9	51.4	10.5*	0.28
Remedial Education				
Grade retention by age 15, %	23.0	38.4	−15.4*	−0.43
Special education by age 18, %	14.4	24.6	−10.2*	−0.41
Child Maltreatment				
Any indicated abuse or neglect from ages 4 to 17, %	9.9	17.4	−7.5*	−0.35
Any out-of-home placement, %	5.2	8.5	−3.3*	−0.25
Juvenile Arrest by Age 18				
Petition to juvenile court, %	16.9	25.1	−8.2*	−0.29
No. of court petitions	0.45	0.78	−0.33*	−0.30
Petition to court for violent charge, %	9.0	15.3	−6.3*	−0.30
Adult Crime by Age 26				
Any felony arrest, %	13.3	17.8	−4.5*	−0.19
No. of felony arrests	0.32	0.44	−0.12*	−0.21
Incarceration or jail, %	20.6	25.6	−5.0*	−0.17
Health and Mental Health				
Reported any depression symptom by age 24, %	12.8	17.4	−4.6*	−0.20
Substance misuse by age 26, %	14.3	18.8	−4.5*	−0.19
Health insurance coverage by age 26, %	76.7	66.6	10.1*	0.30

* $p \leq .05$.

Notes: Effect sizes are in standard deviations. Dichotomous outcomes were converted using the probit transformation. Sample sizes vary by outcome. National norm is for the Iowa Tests of Basic Skills. The sample sizes for adult crime by age 26 are provided. Coefficients are from linear, probit, or negative binomial regression analysis. Coefficients are adjusted for the indicators of preprogram risk status, gender, race/ethnicity, child welfare history, and a dummy-coded variable for missing data on risk status. Sample comparisons are based on published studies whenever possible.

adult felony arrests (16.3% vs. 21.2%), and adult conviction (20.3% vs. 24.7%) by age 24 to 26 in comparison to the comparison group. Few effects on crime prevention were found for extended

CPC participation; the main one was arrests for violence by age 24 to 26 (13.9% vs. 17.9%). No differences for school-age participation alone were detected.

Educational Attainment and Economic Well-Being

Preschool participants had a higher rate of high school completion by age 21 (61.9% vs. 51.4%), completed more years of education by 26 (12.1 vs. 11.8), and had a higher rate of 4-year college attendance (10.9% vs. 7.1%). Corresponding differences were also found in favor of extended intervention from preschool to third grade (Temple, Reynolds, & Miedel, 2000). Relative to the comparison group, preschool participants and participants of the total program also had higher levels of job skills and socioeconomic status by age 28 (Reynolds et al., 2011).

Economic Returns

Two cost–benefit analyses examining the outcomes for participants at age 21 and age 26 show high economic returns from the program (Reynolds, Temple, Robertson, & Mann, 2002; Reynolds et al., 2011). The following summarizes the findings on the program’s long-term effects through age 26 in 2007 dollars.

Preschool. At an average cost of \$8,512 per participant for 1.5 years of service, CPC preschool was associated with an average economic return to society of \$92,220. The largest benefit categories were life-course crime savings that included those to victims, which was 46% of the benefits. Earnings capacity and projected tax revenues contributed 31% of societal benefits. As a ratio of benefits to costs, CPC was associated with a return of \$10.83 per dollar invested in the program. Considering only the public savings to government and taxpayers, the economic return was \$7.20 per dollar invested.

School Age (Grades 1 to 3). At an average cost of \$3,792 per participant above and beyond regular instruction, CPC school-age intervention was associated with an average economic return to society of \$15,064. The societal benefit–cost ratio was \$3.97 per dollar invested. The public benefit–cost ratio was \$2.11.

Preschool Plus School Age (Extended Intervention). Compared to children with 1 to 3 years of CPC intervention, children in extended intervention for 4 to 6 years had an average economic return of \$42,520. With an average cost of \$5,163 per participant, the benefit–cost ratio was \$8.24. The public cost–benefit ratio was \$5.21.

Mechanisms of Effects

The paths through which CPC preschool participation affects later well-being have been investigated in many studies. Five processes have been identified to explain these benefits and are referred to as the five hypothesis model of intervention effects (SHM). The hypotheses are cognitive advantage, family support behavior, motivational advantage, social adjustment, and school support. Arthur Reynolds, Suh-Ruu Ou, and James Topitzes (2004) investigated mechanisms to high school completion and juvenile arrest. They found that cognitive advantage, family support behavior, and school support were the strongest mechanisms of influence. Cognitive advantage paths, as measured by school readiness skills, accounted for 23% and 19% of the indirect effects on school completion and juvenile arrest, respectively. Corresponding percentages for family support were 28% and 21%, and for school support were 31% and 48%, respectively.

CPC Scale Up

Although CPC has a distinguished history of benefits to children and families, expansion of the program to other settings is a major priority. In 2012, the U.S. Department of Education awarded the University of Minnesota an Investing in Innovation grant to expand the CPC program from 10 to 26 schools as a school reform model. Implemented in five Illinois and Minnesota districts, the Midwest CPC Expansion began in the fall of 2012 for a preschool cohort that will receive intensive educational and family services through third grade (2012–2017). More than 10,000 children will receive CPC program services with a major goal of sustainability within the districts. A matched comparison group similar to that in the CLS will help gauge effectiveness.

Participation in CPC PreK–3rd is expected to promote enduring positive impacts for three major reasons: (1) A longer duration of participation will produce greater and more foundational changes in school achievement and performance; (2) the program encourages stability and predictability in learning environments; and (3) it is implemented during the transition to school, a critical phase of development in which continuing services can accelerate learning and lessen the possibility of drop-off effects. The results of many routinely implemented programs show that they are insufficient by themselves to substantially reduce the achievement gap. Effective preK has been found to reduce this gap by about a third by the end of Grade 3. This expansion is consistent with the reform goal of scaling up the most effective PreK–3rd models.

Conclusion

There is strong evidence on the positive and enduring effects of high-quality early childhood programs. There is not only a critical mass of evidence from long-term cost–benefit analyses of CPC and other preschool programs but also increasingly strong evidence from state-financed preschool that participation is associated with sizable increases in school readiness and early achievement. Moreover, advances in knowledge on the mechanisms of long-term effects have strengthened confidence in the economic returns of programs. The findings from the CPC program provide a strong foundation for improving children’s well-being. Expansion of the CPC PreK–3rd model provides an opportunity to increase and further sustain the documented effects for more children and families.

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Christina Mondi*

See also Early Childhood Research and Policy Linkages; Early Intervention

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CHILDREN'S CUBBIES

Children's cubbies mostly refer to the bins or spaces that house children's belongings that are transported between the home and classroom. Cubbies typically house and store children's items such as shoes, hats, coats, gloves, materials (from home, too), work to go home, saved items, pillows and blankets, backpacks, and sometimes found treasures. Cubbies can offer a way for children and families to have their own storage space in the classroom or school, and often they represent a space between home and school. Occasionally a single cubby is shared between children. However, this practice of sharing a single cubby for multiple children is more and more discouraged in regulations and guidelines because of contagions and communicable outbreaks. As well, certain items from home such as over-the-counter and prescription pharmaceuticals (sunscreen, medications, etc.) may be regulated and need an alternatively secured and marked cubby location.

Cubbies are found in the early childhood classroom in various settings and are recommended to be located nearest the entry area to help transition children to and from classroom spaces at the beginning and end of their time each day and throughout

the week. The cubby space can represent an entry zone into the classroom; this way, as children and families enter and exit a space, they can ready themselves for the transition in and out of the environment.

Many cubbies are made from durable materials such as protected or painted hardwood or durable heavy plastics or metals in case of nearby spills or impacts. Cubbies are typically labeled with the child's name and/or symbol to reference the child's name, which gives them a place to call their own in a shared community. If described and explained, cubby spaces can offer a relevant experience to the school's culture as an interface to each family's way of living; where materials from home can be kept safe, a family respectively uses their own space and the overall community engages in a shared understanding of the uses of cubbies in the school.

In many instances, the school personnel rely on the cubby space as a means for program-to-family communications. Generally, papers and materials to go home or a note from the teacher can be found in or near the child's cubby. Signing in and out for the day often occurs near cubbies, and possible daily snapshots or interest fliers are posted nearby. Cubbies are a typical focal point of the important shared resources between home and school, especially around child necessities such as diaper-packs and baby wipe containers for younger children and other classroom materials such as specialty pencils, paper, or a book from home for older children.

Play and work on and near the cubby storage vary from program to program. Because cubbies host personal items, it is common for children to go to and linger near their cubby space to remind themselves of home and family. The relationship between the child and their cubby space may become strong as a result of the links and connections to home, which for some children offer safety, security, and another world. Cubbies may provide a space for small groups to assemble, explore an item stored there, and create fantasy play in or near the space; in this way, cubbies can offer social confidence and closeness or a place to recharge one's own energy in solitude. Thus,

storage reaches beyond physical resources and into memory and fantasy play in spaces. Cubbies can offer alternative worlds and spaces linking school experiences to home and back again.

Often, the cubby space is not licensed or regulated as an ongoing learning space for the classroom if it is separated off from the main floor plan. If the cubbies are open to the classroom, the aesthetics of the materials contained within should be considered. Coat hooks, boot bins, and other carry crates may be necessary to keep supplies, materials, and storage items out of walkways. Also, how much access children have to all cubby spaces can be well thought out. For example, lower tubs can be used for shoes and home-to-classroom materials, coats can be hung in a middle zone, and an upper bin can be brought down for more particular occasions or by request of the child. Providing easy access to a child's own cubby provisions creates a sense of autonomy as well as responsibility for their maintenance, upkeep, and care.

Upholding aesthetic considerations for storage spaces is essential; for example, a visible overflow of too many storage items could mean additional space is required. For example, bulky items like diaper-packs, plush-toys and blankets, balls, or big books from home may need a secondary storage space for each child. Secondary storage spaces can be labeled and placed in suitable locations such as diaper-packs near infant and toddler changing stations, extra clothing in bathroom storage bins, and books in individually marked totes near a reading corner.

Another important aesthetic to cubby spaces includes featuring lids and doors as a way to keep items from falling out into walking zones or to maintain an appearance of order and tidiness in the overall environment. Further, cubbies require routine maintenance, clearing, and sanitizing as well as general daily attention by the whole community.

Overall, in early childhood settings, shared spaces and cubbies create occasions for considering everyday life. Cubbies offer opportunities for young children to learn about concepts such as organization, keeping their materials uncluttered

and in good condition (e.g., keeping marking pen caps on pens when stored so the pen does not stain other storage items), and trust in others to respect personal items in open and shared spaces. Cubby spaces also help young children learn about storing resources carefully, having a respect for others' space, and caring for the environment and supplies around them. Designing spaces such as cubbies that connect the home and early learning settings for children and their families honors the individual and the school community as a place of learning and living.

Will Parnell

See also Friendships; Kindergarten Environments; Learning Materials; Preschool Rooms; Selection of Furniture; Toddler Rooms

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CHILDREN'S LITERATURE

Children's literature is the subset of literature designed for and loved by children. For the purposes of this entry, children's literature will be used to refer to literature for early childhood: an audience of children from birth to third grade and the adults who care for them. Children's literature includes picture books and picture storybooks; board books and wordless books; alphabet, counting, and other concept books (e.g., opposites, colors, animal sounds); nonfiction and information books; folk and fairy tales; movable, pop-up, and toy books; and poetry and song books. Children's literature is crucial to young children's development

from their early oral language encouraged by nursery rhymes and songs; to their pre-reading skills as they are read to and play with books; to their eventual independent reading skills.

It is a rare child who becomes a good reader without exposure to children's literature in his or her preschool years. It is perhaps rarer still to find an adult who loves to read who did not develop a love of children's books before he or she attended school for the first time. This entry presents a brief history of children's books; the differences among trade books, textbooks, and mass-market children's books; how children's literature promotes learning to read; the importance of libraries; and the availability of a wide range of children's literature.

History

The first picture book for children was written by a Moravian bishop and educator, John Amos Comenius. Published in 1657, *Orbis Pictus* (*The World Illustrated*) was more of a one-volume encyclopedia than what is considered a picture book today, but it was designed to be interesting to children and it achieved that purpose. Children's books have gone through many phases in the 350 years since *Orbis Pictus* was published. Many of the early works were quite didactic, designed to inform and educate, especially in the ways of religion and proper behavior. However, children often found things to like in spite of the lessons inherent in that literature. They learned to skip the boring parts and focus on the interesting characters and most especially, a story well told. They would also find the occasional book that was written for a very different audience and make it their own. That is how Daniel Defoe's *The Life and Strange Surprising Adventures of Robinson Crusoe* (1719) and Jonathan Swift's *Gulliver's Travels* (1726) became favorites that are still in print three centuries later. Although not especially suitable for very young children, these two books marked the start of children expressing an interest in books, despite the books not being specifically published for them. Children became their own advocates for children's books.

By the mid-19th century children could choose from among many selections, including the Grimm brothers folktales translated from the original German, the nonsense rhymes of Edward Lear, the fairy tales of Hans Christian Andersen (1846), Lewis Carroll's *Alice's Adventures in Wonderland* (1865), Mary Mapes Dodge's *Hans Brinker, or the Silver Skates* (1865), and Louisa May Alcott's *Little Women* (1868–1869). At the end of the century the picture book was gaining strength through the works of three talented British illustrators—Kate Greenaway, Randolph Caldecott, and Beatrix Potter. All three were creating images that had children in mind as the primary audience but that also appealed to the adults who were buying them for their children.

Publishing children's books in the United States received an important boost when Macmillan created the first U.S. children's book imprint in 1919—Macmillan Children's Books. Within 10 years there were nine children's publishing houses in the United States and the number of new books published for children had more than doubled to 931 per year by 1929. *The Horn Book Magazine*, which was entirely devoted to reviewing and promoting children's literature, was founded in 1924. The next three decades were often referred to as the golden age of children's books in the United States. It is when the English-language children's literature's "headquarters" shifted from England to the United States, many publishers increased their attention to picture books, and scores of new writers and illustrators entered the field.

Many of the new creators were recent immigrants, and the books published in the United States reflected a broad mix of adventures, cultures, and optimism. In 1938, publisher Frederic G. Melcher, who had founded the John Newbery Medal for the most distinguished contribution to American literature for children in 1921, offered the American Library Association a comparable annual award for "the artist of the most distinguished American Picture Book for Children published in the United States during the preceding year." The Randolph Caldecott Medal was first given to Dorothy P. Lathrop for *Animals of the*

Bible in 1938 and has been awarded to an illustrator every year since then.

The world of children's books is broad and multipurposed, but the books that are most compelling to children are generally those that do not attempt to teach them or push strongly in a particular direction but rather are intended to inform, comfort, and inspire them.

Trade Books Versus Mass-Market Books Versus Textbooks

Although a book is a book—a nonperiodical hardcover volume regardless of length—there are distinct general categories of children's books based on their potential markets. Children's literature most often refers to children's books designed for the general consumer and sold primarily through bookstores and to libraries and schools—known as trade markets. Although trade books were traditionally hardcover, in the last half century, softcover and paperback trade books have become much more common.

Mass-market books are sold predominantly through venues that extend beyond traditional trade outlets such as bookstores, to include drugstores, chain stores (e.g., Walmart), and supermarkets. Mass-market paperbacks are usually printed on less expensive paper than trade paperbacks.

Textbooks are designed for educational or classroom use rather than general use. Textbooks also include workbooks, manuals, and other items intended for the classroom. They often contain teaching aids, such as summaries, questions, and practice tests or quizzes, that distinguish them from trade and mass-market books.

How Children's Literature Promotes Learning to Read

Literacy

Literacy in its broadest sense includes reading, writing, listening, and speaking. And, it involves more than those four skills in isolation. A truly literate person engages in those behaviors within a social and cultural context and is disposed toward

a lifelong use of those skills that help improve the enjoyment of one's life, in all of its stages. The earliest literacy skills begin with infancy and the use of songs and rhymes to soothe and entertain babies. Although they were once part of an oral tradition, songs and rhymes that soothe and entertain today come from children's books.

It comes as no surprise that there is a close relationship between good children's literature and effective learning experiences for young children. The relationship between them is made possible by a caring adult—the parent, caregiver, educator, or librarian who knows about children *and* children's literature. This adult knows how to keep a toddler listening to a poem, how to select a story that will please 95% of all 3-year-olds, how to ask questions to help a 5-year-old understand a challenging story, and how to find an information book that readily satisfies a 7-year-old child's current passion.

Reading Aloud—Bringing Children to Books

One of the most powerful uses of children's books in early childhood is reading books aloud. There are books for every child, at every age. Many of the research findings regarding children's books in early childhood education focus on access to books and reading aloud. These findings include the following:

- Children's early experiences with children's books are among the most significant correlates with their success in learning to read in school.
- Children are more motivated to request being read to, and to "read" or explore on their own, from books with which they are already familiar or have heard or read before and have enjoyed.
- There is a positive relationship between how much children have been read to and how well they will read.
- Storybook reading is a more effective influence on literacy development when children have opportunities to engage in conversation about the story.

The Children's Book Committee of the Bank Street College of Education has compiled a helpful

list of *Tips for Parents* regarding children's books that is based on research and grows from its decades of experience working with young children and their caregivers. Tips include talking about reading with children and continuing to read aloud to children even when they are able to read independently.

Reading children's books aloud to children is such a powerful tool that many children are able to learn to read without any further instruction. Even those children who require more assistance with reading are more motivated by their love of children's books to learn to read.

The Place of Children's Literature in Early Childhood Programs

Personal Reading Versus Reading to Learn

Children's literature has been incorporated into many educational curricula in all grades, as a result of studies showing that it enhances children's reading skills, vocabulary comprehension, and much more. Furthermore, the abundance of varied and high-quality children's books is often effectively used to support children's learning across the curriculum in areas such as mathematics, science, and history, as well as their traditional partner reading. Amid these excellent uses of children's literature, however, we must remember the importance of children's literature for singular and personal reasons. Children's books nurture the curiosity of the first grader who is fascinated by birds, they support the budding artist in love with color, and they provide a home for the imagination.

Windows Versus Mirrors

Children's books provide windows to the world, real or imagined. They give children a chance to go anywhere and do anything. Sometimes those windows offer an alternative view to a hard life—they offer a child hope. A good collection of children's books should also offer children mirrors. Every young child should be able to see himself or herself in books—not every book, certainly, but in some. That

combination of windows and mirrors makes children's literature a powerful source for learning about others and for affirming the importance of self.

Beginning in the 1960s children's book characters began resembling the real world. In 1969 the Coretta Scott King Book Awards were founded to honor African American authors and illustrators of books for children that demonstrate an appreciation of African American culture and universal human values. In 1996 the Pura Belpré awards were founded to honor Pura Belpré, the first Latina librarian at the New York Public Library. They are presented annually to a Latino/Latina writer and illustrator whose work best portrays, affirms, and celebrates the Latino cultural experience in an outstanding work of literature for children and youth.

Classroom, School, and Public Libraries

Types of Children's Literature

The broader the variety of children's books available, the more likely it is that there will be books to appeal to every child's individual interest. Some books are perfect for group activities and others for sharing while sitting on an adult's lap. Some books are best shared or explored at home. It sometimes pays to purchase more than one copy of a book that is a big hit because of a storytime theme or particular time of the year. Every library should have a broad sampling of poetry, songbooks, and nursery rhymes; board and cloth books; concept books; and wordless picture books. Even when a classroom library is serving children age 3 and older, it is important to remember that the whole family is also being served—the parents, grandparents, and new siblings as well as the 3-year-old in the classroom. Sampling all the languages spoken in the school or community is also a wise approach to collection development.

Folktales and fairy tales are a critical component of any early childhood library. Fairy tales are stories that include supernatural characters such as fairies, witches, ogres, trolls, or giants who often have the power to predict the future, control the present, or take on different shapes. Fairy tales can

be folk fairy tales, stories passed down through the oral tradition where the original author is forgotten, or literary fairy tales written by a known author. Hans Christian Andersen is one of the more famous literary fairy tale creators. A folktale is any timeless story that comes down through the oral tradition. Every culture has them, and it is delightful to compare versions; for example, many trickster tales tell the story of the little creature using his quick wits to tease or best the bigger creature. The teasing is often met with comeuppance for the trickster, while the besting of the bully might be celebrated. Trickster tales sometimes feature Anansi (from Africa), Brer Rabbit (from the American South), or Coyote (from Native American tribes).

Picture books and picture storybooks are the mainstay of any library serving young children. Two special categories of picture storybooks are especially useful and popular in early childhood settings—predictable stories and cumulative tales. Predictable stories are designed for children to figure out what comes next. Sometimes a rhyming word pattern provides the clue, while other times certain words or phrases are repeated. Predictable books allow children to prepare for independent reading through imitation or “pretend” reading. Their pride in reading the book is easily seen and felt. Cumulative tales are narratives that have a simple chain-like plot developed through a pattern of repetition in which phrases, objects, or actions are added one at a time until the complications are resolved. “I Know an Old Lady Who Swallowed a Fly” is a classic cumulative tale in the form of a song where the old lady swallows one animal after another to catch the last one she swallowed.

A relatively new format of picture book is gaining popularity these days—the graphic novel, a chapter book length comic book designed for younger readers. The minimal text and reliance on comic-like art makes them a huge hit with children who prefer less text and stories told primarily in pictures. Easy readers or beginning readers are picture books or picture storybooks with a controlled vocabulary designed for beginning readers. Dr. Seuss is credited with creating the first beginning reader, *The Cat in the Hat*, in 1957.

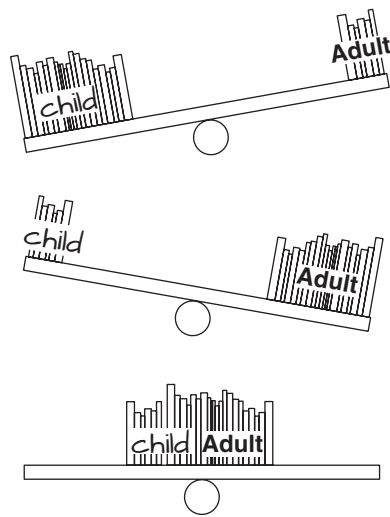
Information books provide factual information about anything in any format. Some children have no interest in stories or make-believe; they just want the facts and, fortunately, there is a genre right up their alley!

Toy books or pop-up books or movable books are children's books in which parts of the pages pop up, pull out, or extend by lifting a flap. Toy books are designed to invite interaction with the text and are sometimes as much toys as they are books. Most often used by children who want to touch and manipulate things, toy books typically have a much shorter life span than standard picture storybooks. A willingness to replace these types of books gives all children a chance to experience them over time. Books on tape, CDs, DVDs, and computer and tablet applications have become a huge supplemental industry to book publishing. Although it is never a great idea to replace books altogether, recorded books, filmed books, and book-based applications provide expanded experiences—a chance to travel with children's literature-based content or to fill in a space where a book may be less suitable—in a doctor's office, in the back seat of a car, or on a family film night.

The Children's Literature Continuum

Some books that young children treasure occasionally test the patience of adult readers when they are asked to reread them over and over and over. It is still a great idea to reread anything a child wants to hear multiple times, but it is not always easy. On the other hand, there are books that some adults think a child *should* like—occasionally purchased by out-of-town grandparents—that just don't interest the child at all.

Think of those books the children love to the exclusion of parents on the far left of a seesaw and the books loved by parents to the exclusion of the kids on the far right. Ideally, children and their adults should be exposed to as many books in the middle as possible—the books that both children and parents love in equal measure but not always for the same reasons. Those shared children's book experiences can be the most powerful and lasting. Sometimes particular phrases, expressions, and

Figure 1 Children's Literature Continuum

Source: J. Harlan Ritchey.

stories from those books in the middle become part of the family's shared language for generations.

Children's Literature Sources

People Who Know Children's Literature

The best three sources for finding children's books suitable for particular children are the local public library, the school library, and the local bookstore. People who work with children's literature every day are asked over and over again about suitable books for girls versus boys; good books for particular ages; books that might be of interest to reluctant readers; a good next book for a child who just loves a particular author, illustrator, series, or genre; and scores of additional questions. Communities that still have an independent bookstore or a trained librarian in the public school classroom are especially fortunate.

The people working in the children's section of the public library are often trained in the field of children's literature and hold an advanced degree in library science. They are also very likely to love their work—the vast majority of people working with children's books do so because they are passionate about the field. Public libraries also have access to best book lists, lists of book awards,

and bibliographies that can serve as guides for parents, caregivers, teachers, and, sometimes, children themselves.

Organizations That Promote Children's Literature

The American Library Association (ALA) is a nonprofit organization based in the United States that promotes libraries and library education. Founded in 1876 by, among others, Melvil Dewey, inventor of the Dewey Decimal Classification system, ALA is the oldest and largest library association in the world. It also has divisions that focus on school libraries (American Association of School Librarians [AASL]) and children (Association for Library Service to Children [ALSC]). The ALSC is especially well known for its book awards, including the Robert F. Sibert Informational Book Medal, the (Theodor Seuss) Geisel Award for the most distinguished beginning reader of the year, the Randolph Caldecott Medal for the most distinguished American picture book for children, and the John Newbery Medal for the most distinguished contribution to American literature for children.

The International Literacy Association (ILA) is a global advocacy and membership organization of more than 300,000 literacy educators, researchers, and experts across 75 countries. For most of its 60-year history, the ILA has been known as the International Reading Association (IRA), setting the standard for how literacy is defined, taught, and evaluated. Its mission is to empower educators, inspire students, and encourage leaders with the resources they need to make literacy accessible for all. Some of its many resources include publications focused on early childhood education and recommended children's book lists.

The Pennsylvania Center for the Book (PACFTB) is a state affiliate of the Center for the Book at the Library of Congress and sponsored by Penn State University Libraries. Every state has a Center for the Book, and each approaches celebrating the world of the book and literacy in its own unique way. Pennsylvania's primary focus is on young children and children's literature. In addition to a family literacy curriculum used in family literacy programs

across the country, the PACFTB issues an annual best book list for children ages 3 to 6—*A Baker's Dozen: The Best Children's Books for Family Literacy* published in the preceding year.

Publications That Provide Annual Lists of the Best Children's Books

A Baker's Dozen: The Best Children's Books for Family Literacy is a best books list of 13 picture books especially suitable for family literacy selected by PACFTB with parents who are not strong readers in mind. Tips for using the books with children and with families accompany the list.

Best Books of the Year for Children and Young Adults is a best books list selected by the Children's Book Committee of the Bank Street College of Education in Manhattan, New York (founded in 1916). The two youngest categories on the list are *Under Five* and *Five to Nine*—both of which contain well over a hundred annotated titles each year.

The Bulletin of the Center for Children's Books is a children's literature review journal published monthly except August (University of Illinois/Johns Hopkins University Press). In addition to monthly reviews and a simple recommendation code (marginal, acceptable, recommended, special distinction), the bulletin staff select the best of the previous year's literature for youth and award a Blue Ribbon to each selected title. The list is published and released online every January, citing the previous year's books.

Children's Choices is an annual joint project of the ILA and the Children's Book Council (CBC). The CBC is the nonprofit trade association of children's book publishers in North America, dedicated to supporting the industry and promoting children's books and reading. Each year, approximately 12,500 children (Grades K–6) from different regions of the United States read and choose 100 favorites from books donated by North American children's book publishers. About a third of the list is made up of books for beginning readers, Grades K–2, ages 5 through 8.

The Horn Book Magazine is the oldest children's literature review journal in the United States, founded in 1924. Every January in the first issue of

the new calendar year, *Horn Book* publishes its Fanfare—the succinct list of the two or three dozen best children's books of the preceding year.

Notable Children's Books is an annual list of outstanding children's books selected by a committee of the ALSC. As applied to children's books, the list is thought to include books of especially commendable quality, books that exhibit venturesome creativity, and books of fiction, information, poetry, and pictures for all age levels (birth through age 14) that reflect and encourage children's interests in exemplary ways. The current year's Newbery, Caldecott, Sibert, and Geisel Award and Honor books are automatically added to the list. The "Younger Readers" section covers preschool to Grade 2 (age 7), including easy-to-read books, and comprises nearly half of the annual list of approximately 100 titles.

Steven Herb

See also Family Literacy Movement; Language Development; Literacy; Oral Language Development; Read-Alouds; Reading; Storytelling and Story Acting

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- Bulletin of the Center for Children's Books: <http://bccb.lis.illinois.edu/>
- International Literacy Association: <http://www.literacyworldwide.org>
- Pennsylvania Center for the Book: <http://www.pabook.libraries.psu.edu>
- Pennsylvania Center for the Book: A Baker's Dozen: The Best Children's Books for Family Literacy: <https://pabook.libraries.psu.edu/awards-contests/bakers-dozen>

CHILDREN'S WRITING

Imagine writing time in a kindergarten classroom in an urban area in the United States. It *is* writing time, but the children's compositions are being woven through many symbolic media. Children are not only nor even mainly writing; they are drawing, gesturing, conversing, pretending, and, on occasion, singing. This is what writing time may sound and look like in an early childhood classroom that

makes time and space for children to be writers.

This entry first discusses the foundational importance of children's weaving of symbols to their development as writers. As Lev Vygotsky explained, young children's use of the written symbol system builds on their social play with other symbolic tools. Against this backdrop of young children as symbol users and social players, the entry then discusses children's socialization into written language use, their grappling with the encoding system, and their appropriation of writing for use in the cultural worlds of childhoods. The emphasis is on how these processes are enacted in classrooms, since it is in classrooms that, globally, most children experience formal expectations for their writing.

For purpose of this entry, *writing* is defined as the intentional use of particular graphic symbols—letters or letter-like shapes—to represent and communicate meaning and, thereby, participate in situated, culturally valued activities or practices. Young children explore the medium of written language as they do any symbolic medium. But they do not want to learn to write in order to master isolated skills or to contribute to the future economic well-being of their country. They want to participate in the activities going on around them. For children to participate meaningfully in their worlds through writing, that writing must be relevant to them as children.

Composing is a broader term and involves the intentional use of any, or a range of, symbol(s). Given the increasing importance of Web-based, multimodal texts, the goal of writing development has been reconceptualized by many educational scholars. Rather than the mastery of one symbolic medium (i.e., a mastery of a hierarchy of written language skills), the goal is children's intentional design of a multimodal text; such a goal implies a rich symbolic repertoire.

Children as Symbol Makers: Writing and Children's Symbolic Repertoire

Children's writing is often portrayed along a linear line emphasizing encoding: from scribbles and mock writing to invented spellings that map

sounds onto written letters, leading ultimately to texts that are not only readable but also increasingly long and complex. One problem with this linear line is that it hides from view the central role of children's symbolic repertoire; within that repertoire, children find a niche for written language.

In the early childhood period, children develop as symbol users and social players, and, as noted, that development is foundational to learning to write. To illustrate this developmental importance, imagine two preschoolers playing with a large box lying so that its open top is now on its side, facing the children. "This is our house," says one child to the other.

"It's raining, it's pouring," sings the other. The two children crawl in the box and peek out their "door" at the rain.

The children in the scene just described are composing a world. With their talk and actions, they make a box a house and themselves housemates. In their world, they are safe from the storm. Consider again now the "door" of the "house." Since the box is a house, the open side is a door. This is second-order symbolism—one symbol (the box as house) serves as the basis for a second (the open side as door). It develops first in play, but it is also the basis for written language, in which one symbol (a graphic word) symbolizes another (a spoken word).

During the preschool period, when children's coordinated nonverbal play gives way to more elaborate use of language, children's talk may be used to establish the play frame, to name the transformed identities of people, objects, and places (e.g., "This is our house"), and to carry the narrative forward. If one listens to preschoolers drawing, one may well hear very similar kinds of playful talk. Energized by the intention to represent and, often, to play with peers on paper, drawing can become a mediator of dramatic play. "This is my house," a child might say as she makes a box on a page. "Here's you," the child may continue to a peer. In their 2009 book, Celia Genishi and Anne Haas Dyson describe two children playing this way, with kindergartner Willo announcing, "We're playing sisters, on paper," after her friend Alicia put her in a drawing of her family. Thus, through

talk and action, drawing can become a means for articulating a world.

Within this semiotic theater of drawing, children in literacy-infused environments sometimes begin to write letters or words, especially their names. Their actions are often fluid, exploring visual and letter symbolism as their meanings evolve. Among preschoolers and kindergartners, a letter *p* might be reimagined as a person whose hair is on one side of her head; the first letter of a name might be placed in a house, indicating the person who lives there; the letters of sports teams might show up on a drawn football field, along with the associated visual symbol. Eventually, thought Vygotsky, children must learn that they can draw speech—voices, as it were, not just objects.

Vygotsky imagined a linear line from playful gesture to drawn line to written language, all means for articulating ideas. Yet children do not move linearly from one mode of representation to the next. Rather, children may compose worlds through symbol weaving, as written language finds a place in a child's symbolic repertoire.

Entering into writing practice entails imagining oneself as having some agency, some resources, and some companions with whom to venture forward. When written texts are conceived of as yet another place for play, children may experience the transformation of meaning across media, as themes and play practices travel across—and rework—borders of time, space, and media. The role of social and symbolic play in learning to write may not be recognized when formal schooling begins in kindergarten.

Socialization of Young Children as Writers

From a sociocultural point of view, children learn about language, oral or written, as a symbolic code at the same time that they learn how it is used in their social worlds. Familiar writing practices may include contributing to list making for needed items, seeking parent signatures on teacher permission forms, signing one's own name on greeting cards, being aware of texting and even by pretending to

text on cell phones, and on and on. Children's understandings of written language—its function, use, and interactive processes—are energized by the desire to participate in, or play with, such practices, which may vary greatly in nature and extent. This variation exists because language is infused with social and cultural meanings whatever its mode (oral, written, some multimodal or multilingual combination). Because children must build with what they know, and because there is such variation in what children know, there is no set order, no set pathway, to writing.

Writing processes and their functional nature become accessible as they are enacted in talk-filled social activities or events. It is talk that makes the silent marks on page or screen speak for young children. Children learn that certain kinds of texts quite literally have a typical voice or sound. Consider the melodious sound emanating from the church hymnal, the melodramatic dialogue of the superhero cartoon, the celebratory voice of the “happy birthday” greeting card, the straightforward voice of the grocery list, the sweetly affectionate voice of the “I love you” note, and the stern warning of the “DO NOT ENTER” sign.

It is no surprise, then, that young children may write messages before they control the conventional symbol system. They may, in effect, draw what writing looks like, capturing its perceptual features. Writing has a certain linearity, a particular directionality, and specific kinds of letter and punctuation units; the nature and arrangement of those units vary, depending on the spatial location of print. A written bit of correspondence, a sign on a building, a Web page on a cell phone—all may look different. Having made writing, children may assume others can read their text, as in the title of Marie Clay's generative book on young children's graphic explorations of writing *What Did I Write?*, or they may read the text themselves, remembering the intention they brought to their work and adopting an appropriate voice. Five-year-old Alicia wrote letters and letter-like forms in linear rows quickly and then read sweet, loving texts about how “nice and pretty” her two best friends were . . . unless she was mad at them.

With interactive assistance from teachers and peers, children will grapple with the complex encoding system.

Grappling With Encoding

Children's first efforts to choose specific letters to represent particular entities tend to involve names. Alicia's first written words were her own name and that of her best friend Willo. This writing of names, though, does not mean that children grasp the encoding system. In the written system, symbols do not directly link to referential meaning. Rather its units—its arrangements of letters and spaces—are linked in a systematic way to spoken language. Written letters, then, may initially be drawn and directly represent or belong to a referent; an “A” belonged to Alicia. Children may even choose to write a number of letters based on the size of the referent (e.g., large objects may get many letters); more conventionally, they may base decisions on the number of syllables they hear in a word or the sound qualities of letter names (“car” has an R). With experience writing (and classroom talk about letters and sounds), children may invent more phonologically complete representations of spoken words.

However, the same child can use a range of encoding strategies, depending on that child's purpose, the complexity of the intended message, and the ongoing situation, including any interactive guidance. Teachers can hear when children begin to grasp both the notion of one spoken word matching one written one and that of the phonological helpfulness of a slowly spoken word. Children's writing processes will slow down, and, along with social talk, they will use self-monitoring talk as they recite a planned word, try to recall its spelling, find it displayed in the classroom, or pronounce it slowly, before making decisions about which and how many letters to write; then they may reread what they have written before moving on to the next planned word. Writing even a single sentence can initially take much effort. It is worth that effort, though, if children are primed for participation. And this may be especially so when writing becomes part of childhood cultures.

Classroom Writing: Official and Unofficial

The intention to join in, to participate in a communicative practice, compels young children to orchestrate their knowledge and know-how about writing (and other modes), to become aware of a need for help, and to seek out an audience if one is not provided (e.g., through a daily sharing time). Indeed, the enactment of any symbolic act involves grappling with the connection between symbolic vehicle (e.g., the graphic), intended meaning, and the relationship between self and addressees.

From a global perspective, most children's writing education emphasizes isolated skills, beginning with opportunities, not to explore the system but to master the letters and their sounds though such activities as reciting chants (e.g., "A, Apple; B, Boy; C Cat," and so on), copying words from the board, and completing varied paper or computer-mediated practice tasks or "games." Even if a child attends a preschool centered on exploration and dramatic play, as that child goes through a school system, writing tasks are likely to become more constrained and less open to children's resources (e.g., their drawing on popular culture texts, using devalued languages, even talking with peers).

In the United States, teachers in schools serving mainly minority children may have relatively more restrictive curricula and, indeed, in kindergartens, have had such restrictions for a longer period of time than schools serving students from a higher socioeconomic status. Even in classrooms with curricula that encourage daily child composing, the adopted commercial programs may strictly regulate throughout a district what genres children will write, how and when children will proceed to write, and what skills should be mastered by what date. There may be firm expectations for standard grammar, although linguistic diversity in English variants or in home languages is the norm in urban schools in this country, and similar situations prevail globally. Similarly, standard punctuation conventions may be expected, although the syntactic basis for punctuation is rarely clear to young children. (Children's initial use of punctuation tends to be based on spatial cues, like putting periods at the end of lines.)

However, no matter how constrained the official curriculum might be, composing may become important in unofficial or peer-defined cultures. Given children's desire to participate and gain companionship, they may act as agents in writing spaces shared with other children. Such actions require some time and space for talk among peers. If present, writing may become a kind of textual playground. That playground may be found in children's reinterpretations of official school writing practices or in child-initiated activity in unstructured breaks in the school day.

Young children have been observed to enact varied kinds of child-initiated play in official writing times. For example, in an urban first grade observed in Dyson's 2013 ethnography, *ReWRITING the Basics: Literacy Learning in Children's Culture*, children's writing games included pretend birthday parties. Child writers imagined the birthday parties they were having and named peers who were coming, and those peers responded with pictures and texts about the good time they would have at the parties. Even seemingly straightforward texts, like Tionna's—

On Monday I wint.

to the stor with.

Jeanette lyron to

—were play. Tionna's text was part of friends' coordinated play, as similar texts were written on their separate papers. Tionna and Lyron did not even know where each other lived, but writing was a way to mark and sustain relationships that mattered. Indeed, many young children write texts featuring their friends.

Toward Children as Writers

Solely as fragmented skills, writing tasks do not grip children's attention. Further, classrooms that devalue play and silence children can be difficult places for writing to flourish, that is, for children to use their social relations and symbolic repertoire to make writing a relevant tool for them as children.

Yet, all children bring their symbol-producing predilection to school—their talking, drawing, playing, storytelling, and, in our society, some kind of experience with print. The ability to share symbols and thereby organize and express inner feelings and experiences is a part of children's human heritage. Moreover, time to play out their own dramas, to draw real and imagined worlds, to contribute to written accounts of their observations in study units, to hear stories and to compose their own across multiple media and technologies—these are means for helping young children recognize written language as a relevant tool in their lives.

Official tasks that allow children to participate in different ways with different resources may allow teachers to observe what children attend to and, so informed, to extend individual knowledge and know-how. Among such tasks are drawing pictures, dictating stories, and engaging in varied kinds of official and unofficial writing activities. If interactive space and time for child-initiated composing can be found, children may find writing a particularly compelling, if challenging, new tool for their symbolic repertoire. With that repertoire, they can negotiate, sustain, and manage relationships, replay scenes and imagine encounters, capture the music of language, and reconstruct and reimagine their worlds. Energized by participation in a composing practice they judge relevant, young children have reasons to grapple with the complexities of writing.

Anne Haas Dyson

See also Language Diversity; Literacy; Peers and Play; Play and Early Writing; Storytelling and Story Acting

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CHRONIC ILLNESS

The term *chronic illness* refers to a health condition that is of long duration (often defined as 6 months or more), which rarely resolves without medical or other intervention, is rarely completely cured, and is often associated with functional impairment or long-term disability. Chronic illness may be thought of as an umbrella term that refers to children who are living with a chronic health condition regardless of whether they are well or ill at any given time. The incidence and prevalence of children living with chronic illness are increasing, both because of a current rise in the incidence of certain long-term conditions such as

diabetes, asthma, and allergy, and because of rapid improvements in medical care over the past few decades, leading to improved rates of recovery from serious illness and injuries and longer life expectancy for children with many inherited conditions. It is likely that all professionals working in the field of early childhood education and care will be responsible for a child with a chronic illness at some time.

The importance of normal developmental trajectories in early childhood has been well demonstrated, yet for the child with a chronic illness, extra assistance and support may be required to ensure that expected developmental milestones are met.

The term *chronic illness* covers many different conditions, with different consequences for the child and his or her family, and it can be difficult for educators to know how to manage a child's specific health and support needs. Common chronic conditions in early childhood include the following:

- Asthma
- Cancer
- Cerebral palsy
- Consequences of low birth weight and prematurity
- Cystic fibrosis
- Developmental disabilities, including attention-deficit/hyperactivity disorder (ADHD) and autism spectrum disorder
- Diabetes
- Mental illnesses
- Obesity
- Traumatic injury, especially to the head, brain, or spinal cord.

Many of these conditions require specialized medical care, whereas others are generally managed in the community and at home.

Although specific symptoms, treatments, and management of each condition differ, there are many similarities involved in dealing with childhood chronic illness. Children with chronic illnesses face a higher than average risk of educational underachievement and premature disengagement from school and are more likely to engage in

risk-taking behaviors in adolescence. Ensuring that children with chronic illnesses remain connected to appropriate learning pathways is a key responsibility of early childhood educators. Factors associated with childhood chronic illness that may impact the child's development include the following:

- Missed opportunities for participation in early learning programs such as playgroups, kindergarten, and early school because of risk of infection or hospitalization
- Family stress
- "Invisible" consequences such as fatigue, cognitive impairment, or learning and attention difficulties
- Risk of teasing, bullying, or rejection by peers because of perceived difference
- Physical frailty and/or disability, resulting in reduced opportunities for physical growth, development, and learning

Educators and caregivers should also be aware that children living in poverty, children from particular ethnic backgrounds, and children living in poor or chaotic home environments are also more likely than other children to experience chronic illness. Children with chronic illnesses are also more likely to experience mental health problems such as depression and anxiety than their peers without a chronic illness.

Despite living with a chronic illness, however, every child still has a right to education and learning, even if he or she may be absent from the regular education and care setting for significant periods. There is a strong interrelationship between health, education, and well-being, and having a chronic illness can interfere with a child's development of strong peer and social relationships. Extra effort may be needed to keep children with chronic illnesses connected socially to friends and peers and to keep them informed of what happens if they miss out on their regular activities. At the same time, early childhood services can provide a sense of normality to a chronically ill child, and the child may not want or need to be singled out as "special" or "different" from the other children.

Achieving this sense of connectedness and improving communication between family, the early years setting, and the health care team requires high-level communication and collaboration among stakeholders. All members of the child's care team need to be working together to ensure best outcomes for the child. This may include making sure that the child has access to all the support services available in the local area, including educational, medical, allied health, respite, and social support services. Additional resources may be available to support the child in the education and care setting. Early childhood education and care staff cannot be sure that parents will know what services are available, so it is important that professional staff work together to support families and help coordinate care.

To do this effectively, information must be shared and communicated openly, but this also needs to be done sensitively. It is essential that the child and his or her family's right to privacy and control be respected. In many cultures and communities there may be stigma around particular conditions, so sensitivity may be required in order to get the appropriate information to the correct people.

Families may need to be in control of which information is shared with which other people. Educators and professional staff may need to ask themselves: What is appropriate to tell other children in the setting? What is appropriate for other staff not directly involved in the child's care? What about other families? Working closely with the child's family will help guide educators to make appropriate decisions in each case. It is also a good idea to have a written document that outlines the components of the child's daily care and management, as well as what to do in an emergency and who to contact. It is also critical that services be prepared for casual relief staff so that they also are aware of the child's needs on a daily basis.

As the rates of children living with chronic illness increase, educators and caregivers in the early years are increasingly responsible for ensuring the inclusion of these children in developmentally appropriate opportunities for playing, learning,

and growing alongside their healthy peers. With careful planning and open communication, there should be no reason for any child living with a chronic illness failing to reach his or her full educational potential.

Liza Hopkins

See also Developmental Disabilities; Family-Centered Practices; Identification of Special Needs

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CLASSROOM ASSESSMENT SCORING SYSTEM

The Classroom Assessment Scoring System (CLASS) is a widely used observational tool focused on providing information about the quality of early childhood classrooms. The CLASS examines quality in early childhood classrooms in terms of teacher–child interactions. Several tools and methods exist to assess various aspects of quality in early childhood education classrooms; the CLASS focuses on the process variables related

to teacher–child interactions. Several different dimensions of behavior between teachers and children and among children can be assessed using the CLASS in classrooms contexts serving young children. There are different versions of the CLASS used with classrooms serving different ages of children ranging from classrooms for infants to secondary classrooms. Although the examples and contexts differ across age levels, several core dimensions are similar across versions.

Increasing numbers of young children are enrolled in early childhood education classrooms for significant periods of their day. Being able to reliably assess teacher–child interactions using a research-driven measure is important because the experiences children have in these settings can vary dramatically. And, in fact, descriptive data indicate that many early childhood settings are of low or moderate quality. Because empirical evidence suggests that the experiences young children have in these settings contributes to a range of social and academic outcomes in the short and long term, understanding the quality of these settings is critical for addressing children’s development and learning. The interactions that young children have are paramount to their development across social and academic domains; these interactions with teachers in classrooms and peers can provide the foundation for learning throughout formal schooling.

Understanding the quality of these classrooms provides important information relevant to parents, providers, and policy makers. The CLASS can be part of a quality rating and improvement system (QRIS), which is a state system created to provide parents with information about the quality of early childhood programs in their state. Information gathered within QRISs is also intended to improve experiences for children and families enrolled in early education programs, so valid and reliable assessment of programs is necessary.

The CLASS also can be used for professional development at both the preservice and in-service level. Increasing numbers of institutions of higher education are using the CLASS as a framework for teacher preparation programs helping students to understand the importance of interactions and

specific behaviors that contribute to positive interactions and experiences for young children. Having the content of child development and teaching methods is important in teacher development. And, understanding how to implement teaching practices can provide additional support in the classroom, contributing to positive outcomes for children. Programs also can use the CLASS to provide in-service training to current teachers to consider their current practices and the interactions they have on a daily basis with the children in their classroom. Support of teachers can help teachers focus and improve in areas that are challenging for them and build in their areas of strength. Appropriate training and use of the measure allows administrators and practitioners to use a common language and common lens to focus on teacher–child interactions and work to improve classroom experiences for young children.

Description of Structural and Process Features of Early Education Classrooms

Early childhood education is complex. A multitude of adults, such as administrators, teachers, and family members, are involved in early childhood education. In addition, classrooms can have 15 to 20 or more children in them. The dynamics of what happens in classrooms is fascinating yet challenging. Teachers are responding to multiple needs of multiple and diverse children and their families. Early childhood classrooms are described often in terms of structural features and process features. The structural features may include the actual physical setting of the classroom and outdoor environment, the materials, and the education and qualifications of the teachers and director. The process variables are generally described as what actually goes on in the classroom. Whereas the structural features may address questions of *what* and *who* is available in the classroom, the process features focus on *how* these materials and resources are used and how the teacher uses his or her knowledge and expertise to nurture and support young children and facilitate children’s learning and activity in the classroom. For example,

teachers may have activities and materials for the children to use, but the process features will focus on how the teachers uses the materials and facilitate children's opportunities for learning during the activity.

Capturing and quantifying process variables in classrooms are challenging endeavors—classrooms are complex systems and observing behaviors in classrooms is complex. It is far easier to count the number of books or puzzles in a classrooms or the presence or absence of specific routines than it is to evaluate teachers' facilitation of activities and responses to children. The CLASS focuses on the process variables across 10 dimensions: positive climate, negative climate, teacher sensitivity, regard for student perspectives, behavior management, productivity, instructional learning formats, concept development, quality of feedback, and language modeling. All of these dimensions are focused on how the teacher and children are interacting with one another, and some include peer interactions. Within each of these dimensions there are multiple indicators supporting and defining the dimension, and descriptions of behavioral markers to provide examples of behaviors that contribute to ratings of each dimension. The CLASS requires that teachers' behaviors and children's behaviors are observed for several cycles and notes are taken focused on behavioral evidence observed so that a rating from 1 to 7 can be given for each dimension. The observation of these behaviors focuses on the occurrence or absence of behaviors and the depth, frequency, and intensity of the behaviors that contribute to the rating of each dimension.

The 10 dimensions are grouped into three domains: emotional support, organization climate, and instructional support. The domain of emotional support is focused on the responsive care and interactions teachers have with children and the opportunities children have to initiate and direct their activities and participation in activities and routines. Within the domain of emotional support are the dimensions of positive climate, negative climate, teacher sensitivity, and regard for student perspectives. Each indicator provides guidance for observations and note taking of behaviors in the classroom.

Emotional Support

Positive climate includes four specific indicators: relationship, positive affect, positive communication, and respect. A classroom rated high on positive climate will have evidence of teachers smiling with children, using children's names, being in close proximity to children, and having social conversation.

Negative climate also has four indicators: negative affect, punitive control, sarcasm/disrespect, and severe negativity. Negative climate focuses on expressed negativity in the classroom and the intensity and/or escalation of negativity in the classroom.

Teacher sensitivity has four indicators: awareness, responsiveness, addresses problems, and student comfort. A classroom high on teacher sensitivity has a teacher who is aware of children's emotional and cognitive needs, addresses their problems and struggles in a timely manner, and successfully helps children to resolve problems so that children can reengage in activities and classroom routines.

The last dimension within emotional support is regard for student perspectives. Four indicators comprise regard for student perspectives: flexibility and student focus, support for autonomy and leadership, student expression, and restriction of movement. Classrooms rated high on regard for student perspectives have teachers who follow children's lead, elicit ideas from children, and support children to be independent in activities and tasks.

Organization Climate

The domain of organization climate is about organizing the environment and activities within the environment to promote optimal participation and learning opportunities. Within the domain of organization climate are the dimensions of behavior management, productivity, and instructional learning formats. Behavior management centers on setting behavioral expectations for children, following through, and providing guidance so that children are appropriately engaged in activities and the routines of the classroom. Productivity also relates to children's involvement in classroom

activities and routines and focuses on how the teacher manages his or her time and schedule so that learning opportunities are optimized. Finally, facilitation of learning and development is a core component of effective teaching and focuses on the strategies and techniques that teachers use to engage children in classroom activities and routines and opportunities for learning within these contexts.

The instructional support domain centers on what teachers are doing, including questioning, feedback, and language to promote children's learning, thinking, and understanding. Within this domain are the dimensions of concept development, quality of feedback, and language modeling. Concept development intends to move teachers away from rote drill and recall activities and to use strategies to support children to think, problem solve, and develop higher order thinking skills. Through skillful questioning and integrating concepts, teachers can support children in learning how to think and focus on understanding—ultimately supporting children to learn how to learn.

Four indicators comprise the dimension of concept development: analysis and reasoning, creating, integration, and connections to the real world. Classrooms rated high on concept development have teachers who ask open-ended questions, provide children opportunities to brainstorm and plan, and make explicit connections for children between what they are talking about and learning in the classroom to their own lives and to previous learning. Quality of feedback centers on feedback teachers provide to children to expand their learning and participation in activities. High-quality feedback that goes beyond merely yes or no comments, which curtail activities or sends a message to children that they are finished, can further engage children in the activities and supports their persistence in activities and with projects. And finally, language modeling describes the language teachers use in the classroom for language stimulation and language facilitation, so that children have opportunities to be exposed to language and opportunities to use language. The indicators within language modeling

are frequent conversation, open-ended questions, repetition and extension, self- and parallel talk, and advanced language. Classrooms rated high on language modeling will have teachers who engage children in conversations, allow children time and space to use their language, ask questions and provide opportunities for children to use language beyond one or two words to respond to these questions, repeat what children say and extend their words and language, and describe their own actions and the actions of children with words. In addition, teachers and children in these classrooms use descriptive language in the classroom.

Research

Experiences children have in child care are associated with positive academic and social outcomes. Repeatedly research has provided evidence that positive and responsive interactions with children provide children the nurturing and security to explore their environment, interact with materials and peers, and learn and develop within the classroom context. These interactions with adults and peers in the classroom can serve as the foundation for learning and development, and the effects of early positive interactions can persist into early elementary grades.

Teacher behaviors focused on behavior guidance and management are related to children's self-regulation. Self-regulation helps children focus on learning and appropriate interactions with peers and teachers in the classroom. Children know what is expected in the classroom and receive positive reinforcement for meeting expectations, have learning opportunities, and have teachers who facilitate activities to maximize children's interest and engagement. Within the classroom context, the interactions adults have with children can facilitate children's learning. Although teachers are responsible for planning and implementing activities, the activities alone are not sufficient to promote and support children's learning. Teachers' facilitation, questioning, and participation in activities are key components in supporting children's engagement and learning during activities and routines.

Interactions focused on instructional support also provide support for children's learning in terms of higher order thinking, persistence, and language development. Asking children questions and providing opportunities that focus on developing children's higher order thinking skills and understanding are critical to children's learning. Feedback that assists children to expand their learning and supports their efforts within activities and tasks is critical to their continued involvement in activities. Continued and extended participation in activities is associated with children's learning. Rich language use in the classroom, conversations, pairing language with actions, and using descriptive language provide children exposure to language and opportunities to use language that contribute to children's language development.

Although these types of teacher behaviors in classrooms are associated with positive outcomes for children, research has revealed that these teacher behaviors happen at relatively low levels in early childhood classrooms. Observations in thousands of classrooms indicate that although teachers often have positive interactions that are responsive to children's needs and acknowledge their interests and ideas, interactions that facilitate children's higher order thinking and understanding, provide extended feedback that offers opportunities for additional learning, and model rich extended language occur less frequently.

Of note is that these adult-child interactions can be improved with professional development and support. Current research suggests that teachers who attend trainings focused on the teacher-child interactions included in the CLASS and are provided additional support and coaching can improve the interactions they have with children. These changes in interactions may at first appear to be small, but a small change in interactions has significant influence on children's learning and outcomes.

Importance of the CLASS to Parents, Providers, and Policy Makers

Information about the CLASS is important to parents, providers, and policy makers for a number of

reasons. First, information gained from assessing teacher-child interactions provides parents information about the quality and the effectiveness of teachers in classrooms of young children. This information can serve as one indicator of the overall quality of the classroom and the experiences their child may have in different classrooms. Choices about what to include in QRISs that evaluate the quality of early care and education programs are made at the state level, and several states have included the CLASS in their QRIS. The QRIS is intended to help define the quality of early childhood programs, provide information for parents to help them make informed choices about early childhood education programs for their children, and establish a foundation for a high-quality early care and education system. These systems provide parents information overall about the program, and the inclusion of the CLASS provides parents information specifically about the experiences around interactions that their child may have in the classrooms.

Providers can use the CLASS in a variety of ways. Teaching is a complex endeavor and high-quality early childhood education is comprised of multiple components. One way to assess effective teaching is to use the CLASS to examine teacher-child interactions. Providers can use the CLASS within their program to evaluate teachers, to provide feedback to teachers, and to help assess professional development needs for teachers in their programs. The CLASS provides a framework through the use of the three domains—emotional support, classroom organization, and instructional support—for providers to examine the effectiveness of their teaching. CLASS observers are trained to reliably assess teacher-child interactions in classrooms. In programs in which the language of the CLASS is shared among administrators and teachers, the CLASS provides a common language to examine teacher behaviors.

Teachers may have clarity on what is being observed and evaluated and descriptions of behavior through the behavioral markers that support each indicator. For example, if a teacher is struggling in the area of concept development, they can look at the indicators, read the descriptions of the

behavioral markers, reflect on their interactions, and be provided ideas to use to change and improve their interactions in the area of concept development. Overall program administrators can examine their classrooms in terms of the CLASS and consider the area of emphasis for professional development. If most of the classrooms have high ratings across the indicators on classroom organization and lower scores on instructional support, the administrators can focus professional development on areas related to questioning, feedback, and language rather than time management, planning, and behavior management.

Finally, using the CLASS, and the framework for observing effective teaching it provides, is useful to policy makers for several reasons. The field of early childhood education is relatively new. Although Head Start has been in existence for several decades, state-funded prekindergarten programs are a recent development, and the number of child care programs for infants and toddlers is increasing as benefits of early education are realized and as more families have adults working outside the home and need care for their children. Many programs began without the evidence of what works for children, definitions of quality, and data about effective teaching. As this type of evidence is accurately and systematically collected, there are significant amounts of data to process and analyze and much is to be learned about what is quality and how to develop and support effective teaching in the classroom for young children. The CLASS provides one lens of quality to assist in these endeavors.

Karen La Paro

See also Challenging and Supportive Climates; Quality; Quality Rating and Improvement Systems

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CLASSROOM PROCESSES

Examining the qualities of schools and classrooms that affect children's development has become one of the most important pursuits in educational

research today. Classrooms provide the context in which children learn and develop. Children do not learn simply by sitting in a classroom. Rather, the interactions that children engage in with teachers, peers, and tasks are the force that propels children to develop. Much research has been undertaken to increase understanding of these classroom processes. This entry focuses on the classroom processes that take place in typical preschool classrooms. Given the fact that, at least in early childhood, teachers structure the environment and are the primary drivers of the interactions that take place, the entry places special emphasis on the interactions that children have with teachers within the classroom.

Transactional Views of the Classroom Environment

There are two complimentary views of the transactional nature of classrooms. Urie Bronfenbrenner's bioecological model of human development describes several salient aspects of classrooms. First and foremost, the bioecological model emphasizes the proximal processes that are primarily responsible for development. Proximal processes are the regularly occurring, increasingly complex, reciprocal interactions that take place between a person and that person's environment—in this case, teachers, peers, and tasks. Thus, those who want to understand development need to understand the nature and quality of interactions children have on a regular basis. The bioecological model also delineates the environment into strata that help to define the more important and less important aspects of the child's environment. People whom the child interacts with more will generally have a bigger influence than people whom the child interacts with less. Furthermore, the characteristics of the child and the time frame of the interactions are seen to modify the proximal processes. For example, a shy child will experience the classroom differently than an exuberant child, and a child today experiences a different classroom than a child from a generation ago.

This view of children and classrooms is entirely consonant with Arnold Sameroff's transactional model of development. This view emphasizes how the person has an impact on the environment and the environment has an impact on the person. Furthermore, understanding development means more than just understanding aspects of the child. Sameroff emphasizes that focusing only on the characteristics of a child without taking into account the context will be misleading. Thus, the Sameroff view also emphasizes the dual roles of student and classroom in understanding development.

Supports Given to Classrooms of Children

Although there are several, one of the most prominent views of classroom interactions emanates from a measure of classroom process, the Classroom Assessment Scoring System (CLASS), developed by Robert Pianta and colleagues. This measure, and its corresponding framework, divides interactions between teachers and children into three types: emotional support, classroom organization, and instructional support. The CLASS measure itself has gained much notoriety in recent years given its use not only in research but also in its use in evaluating program, center, and classroom quality. Thus, it is helpful to understand a little about how the CLASS views classroom processes.

When walking into a preschool classroom, evidence of emotional support is often most prominent. Emotional support refers to the emotional climate of the classroom and is the domain of teacher-child interactions that supports children's emotional well-being and sense of belonging. How would a child feel when in this classroom? Are there positive emotions expressed? Does the teacher know the children as individuals? Emotional support also extends into aspects of the classroom that seem less emotional but are nonetheless important for children, as those aspects can also communicate respect, connections between and among children, and interactions within classroom practices. These aspects include the degree to which children are given autonomy in the classroom to pursue their own interests (e.g., given a

choice of centers) and have responsibility (e.g., organizing the bookshelf). Classroom emotional support and its components have been linked to a wide variety of positive outcomes, including increased competence, decreased problem behaviors, and even academic achievement. Furthermore, the within-day consistency of emotional support (above and beyond its average levels) has been linked to positive social-emotional and academic outcomes as well. Generally, high levels of emotional support are seen in preschool classrooms as measured by the CLASS.

Classroom organization has to do with managing the demands of running a classroom. Teachers can spend a lot of time dealing with behavior problems or transitioning between activities. When classrooms are organized, they function like well-oiled machines, often through the effective use of routines to maximize the learning time for students. For example, ringing a bell to start a transition can signal that it is time to clean up. Notably, routines may take time to set in place, but once they are, they can save a lot of time over the course of the year given how frequently classrooms transition between activities. Likewise, children's behavior problems can quickly derail optimal classroom functioning. However, teachers can proactively manage classroom behavior by anticipating situations that may be problematic (for some children) and by effectively working to help children through the potentially difficult situation. For example, if using the computer is a center activity in which children will argue over whose turn it is, having an organized rotation, a timer, or other regulatory strategy can manage the problem before it happens. Classroom organization and its components have been linked to children's development of self-regulation. Generally, moderately high levels of classroom organization are seen in preschool classrooms as measured by the CLASS.

Instructional support is the aspect of classroom interactions that has to do with conveying content knowledge. Although the content can vary from classroom to classroom and over the course of the year, generally, instructional support includes the cognitive demands that are being placed on the

students. This can be done through asking questions, asking students to predict, providing feedback that helps students engage in the classroom, and using age-appropriate advanced language. In a preschool classroom, this may be done by didactically teaching content or by having discussions with individual children. Generally, moderately low levels of instructional support are seen in preschool classrooms as measured by the CLASS.

It is worth noting that these three aspects of teacher-provided classroom quality are interrelated. Teachers who offer more emotional support at a given time are also likely to offer more classroom organization, and so on. Furthermore, there are relations to one another in how they play out over the course of a day, whereby emotional support is positively related to later classroom organization and vice versa. And there are indications that there are also relations to one another over the course of a year (at least in elementary classrooms), whereby more emotional support is positively related to later instructional support and vice versa. For this reason, new approaches have been developed that view a core part of teachers' interactions that cuts across all these domains while also allowing for there to be differences in domains. From this perspective, there is an overall responsive teaching component, with two specific domains called (1) proactive management and routines, and (2) cognitive facilitation (that do not include that responsive teaching component). The advantage of this approach is that it may better capture the nature of how teachers differ in their interactions with children. The difficulty of this approach, however, is that it is computationally difficult, requiring a high degree of statistical modeling to uncover these aspects of teaching.

Although not measured by the CLASS, another aspect of classrooms that may be important to consider are the activities and materials available for learning. In some instances, it may be appropriate to examine what is available to children in terms of the physical setup and materials in the classroom. Classrooms that offer many provisions for learning have many developmentally appropriate books, gross motor equipment, space for privacy, and

materials for special activities such as art, drama, math, and science. This way of viewing quality is less process oriented, but it may set the stage for certain types of interactions to occur or may hinder certain interactions from happening. Nonetheless, these provisions are consistent with the bioecological model that describes how interactions with these materials can drive development. The next section of this entry examines this aspect of classroom supports when discussing how children engage with tasks.

Supports Received by Individual Children

Another way to view classroom interactions is to look at the quality received by children instead of offered by teachers. Another measure, which also emanates from the CLASS framework, is the Individualized Classroom Assessment Scoring System (inCLASS), developed by Jason T. Downer and colleagues. The inCLASS focuses on the quality received by individual children as measured by their positive and negative engagement with teachers, peers, and tasks. Positive interactions with teachers include the extent to which there is positive engagement and communication with the teacher. Positive peer interactions include the idea of positive peer sociability, peer assertiveness, and communication. Task orientation includes the idea of positive engagement with tasks and self-reliance. Negative aspects of these scales are also captured with conflict with teachers and peers.

Using the inCLASS, one study, by Downer and colleagues, examined what children experienced on the mean level. On a scale of 1 to 7, children scored a 3.2 on the Positive Interactions with Teachers subscale, a 3.4 on Positive Peer Interactions, a 4.6 on Task Orientation, and a 1.3 on Negative Interactions (with teachers and peers). Although helpful to understand this descriptively, it is perhaps more interesting to know that there is a wide degree of variability in what children experience in a classroom. To some extent, this variability in interaction quality may be expected when talking about how children interact with classroom tasks,

sometimes referred to as task orientation. Given the available materials, children may have to self-regulate to initiate or maintain engagement in the task, creating a situation that allows for more differences to exist.

Likewise, it is not entirely surprising that children vary in the degree to which they have positive interactions with peers. In part due to their own social-emotional competence, children may be better or worse at engaging with peers. However, what is more surprising is that two children in the same class may have substantially different experiences in their interactions with the teacher. For example, one child may best be characterized as having positive interactions with teachers, while another child in the same classroom may not.

What remains to be seen are the circumstances under which this variability across children's experiences is good (or at least not bad). For example, at-risk children benefiting more from classroom interaction quality might be seen as desirable by many. However, if certain children (e.g., those with disabilities) within a classroom seem to receive particularly poor quality interactions, then this variability across children might be seen as undesirable. Nonetheless, what is notable is that both classroom supports and child behaviors explain classroom functioning and child outcomes. By understanding the quality of supports offered and the quality of supports received (i.e., transactionally), a rich understanding of the classroom processes children experience emerges. For example, Timothy W. Curby and colleagues examined data that had CLASS measurements of the teacher and inCLASS measures of two children throughout a day. They found much evidence to support the idea that teachers' emotional support and classroom organization were associated with children's later engagement with teachers, peers, and tasks. They found that children's positive engagement with teachers was associated with better emotional support by the teacher a little later in the day and that children's negative engagement was associated with worse classroom organization a little later in the day. In particular, exploring classrooms in this

way may allow for methods to be uncovered that disrupt the negative cycle between children's negative engagement and poorer classroom organization.

Making Use of Classroom Process Data

To understand development from a transactional perspective is appealing, but there are methodological hurdles. First and foremost, identifying measures that can be administered at least three times without losing validity or changing scales or tasks is very challenging. For example, to understand child achievement over the course of a year, the test needs to be able to be given several times, without the child just learning the test itself. Multiple versions of the test may be given, but the different forms need to actually be measuring the same constructs, even though they are different versions.

Statistically, there are several approaches that may be helpful in analyzing transactional data. Sequential analysis can answer questions about how discrete events (or states) are probabilistically related to other events. For example, when a child asks a question (a specific event), what is the likelihood that the child will be responded to by the teacher (another specific event)? Sequential analysis is a good tool for dealing with questions that have to do with understanding how these events are related over time, and thus it helps researchers understand certain processes.

Perhaps the most comprehensive transactional approaches use a type of statistics called structural equation modeling (SEM). SEM allows variables to be both predictors and outcomes at the same time, as well as for there to be multiple outcomes modeled simultaneously. Within SEM, three models are generally considered best suited for modeling transactional relations, according to Emilio Ferrer and John McArdle: cross-lagged autoregressive models, bivariate growth models, and latent difference score models.

Cross-lagged autoregressive models allow for tests of directional lagged relationships. For example, does higher emotional support earlier in the day relate to better child engagement with teachers

later in the day, or does better child engagement relate to higher emotional support, or neither, or both? Notably, these models account for how the two sets of variables correlate within time and are, thus, able to isolate how the processes play out over time. Although not necessarily a requirement, these models work best when the assessments are equally spaced (e.g., a 1-hour space between each assessment time point for everyone in the sample). These models do not model whether the levels of the variables are going up or down over time. Rather, they simply ask if change in one variable is directionally associated with change in another at a later time point.

Bivariate growth models are able to model the actual changes in the levels of the variables over time (unlike cross-lagged autoregressive models). Furthermore, assessments that do not happen at equal intervals are more easily accounted for. Thus, if there is a lot of change in a variable, such as during an intervention, and measurements are not equally spaced, a bivariate latent growth model may be better suited to answer the research questions. By examining how the change in each variable (e.g., the slope of emotional support) is correlated with the other (the slope of child engagement), one can determine whether change in one variable is associated with change in another variable while also understanding how each variable changes over the course of time. However, determining directionality is not possible as with a cross-lagged autoregressive model.

Last, latent difference score models essentially combine aspects of the cross-lagged autoregressive model and the growth model. Latent difference score models capture nonlinear change while also assessing for directional change. These models are very powerful but are sufficiently complex that they are not prominent in the research literature.

Timothy W. Curby

See also Bioecological Theory; Center-Based Care; Child Care Quality and Young Children's Behavior; Measuring Effectiveness; Quality; Warm and Responsive Interactions

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CLINICAL EXPERIENCES

Clinical experiences are an essential component of an early childhood teacher preparation program. Programs use a variety of terms to describe clinical experiences: field observation, field experience, laboratory, practicum, or internship. The common factor of all of these is the opportunity

for future early childhood teachers to have authentic experiences with young children. Early clinical experiences may include observations that help teacher candidates better understand the early childhood teaching career and developmental characteristics of young children. Mid-level clinical experiences typically provide opportunities for preservice teachers to apply the theoretical principles learned in their course work to the children in a classroom setting, and a culminating clinical experience, often called “student teaching” or “laboratory capstone experience” helps beginning teachers refine their observational and instructional skills. Clinical experiences in early childhood may also be outside the classroom setting, such as with a home care provider, a home visit with an early interventionist, or in a community-based agency. This entry describes the historical trends in clinical experiences, as well as contemporary clinical models. It describes the characteristics of quality clinical experiences, including the role of the cooperating teacher and clinical supervisor, and the challenges in providing these experiences for teacher candidates.

History of Clinical Experiences

Clinical experiences (or “practice teaching”) have been a part of American teacher preparation since the early normal schools of the 1800s (so named because they were designed to establish a “norm” for education practices). As these normal schools grew into teacher colleges or universities in the early 1900s, clinical experiences remained a part of teacher training, although there was a wide variety of clinical experiences, in terms of length and requirements. The progressive education era led by John Dewey, along with the emergence of the child study movement in the early 1900s, led to the establishment of university laboratory schools that included teacher training opportunities.

Clinical experience requirements were strengthened in the 1950s and 1960s, and by 1980, most states had requirements for student teaching in licensure programs. While there has been agreement about the importance of future teachers having the

opportunity to practice their skills in a real-life setting under the guidance of a mentor, there continues to be a wide variation of implementation. The 2010 report of the Blue Ribbon Panel on Clinical Preparation and Partnerships of the National Council for the Accreditation of Teacher Education (NCATE) found that while most states required a culminating student teaching experience for certification, the experiences varied greatly, with some teacher candidates spending a year in a school setting working with an expert mentor and other teacher candidates spending as little as 8 weeks in the classroom with an inexperienced cooperating teacher.

Historically, the typical elements of a clinical experience have been observation, then tutoring individual students, and eventually taking over the classroom and “solo teaching.” Traditionally, clinical experience students worked under the guidance of a mentor teacher and were not seen as “real” teachers, even when having full responsibility for instruction. Planning, instruction, assessment, and other duties of a teacher were done in isolation by the teacher candidate, although the mentor or cooperating teacher would provide assistance and approval, as needed. Teaching experiences were scaffolded, with the novice teacher being given minimal responsibility at the beginning of the experience and gradually having full responsibility for the classroom. This traditional model drew criticism in the mid-2000s, with calls for stronger models of collaborative clinical experiences. Today’s clinical experiences continue to evolve with new models showing great promise in preparing early childhood educators.

Models and Approaches to Clinical Experiences

Research comparing models of clinical experiences is meager, and there is no definitive evidence that all clinical experiences have a positive impact on teacher candidates’ knowledge, skills, and dispositions. Clinical experiences range on a continuum from observation with high mentor teacher control to a co-taught, residency model where the teacher candidate is deeply embedded in the

school setting and shares equal responsibilities with the mentor teacher.

Laboratory School Practicum

Laboratory schools are typically associated with a college or university and have a developmental research focus, influenced by the laboratory school founded by John Dewey at the University of Chicago. Lab schools often have viewing windows or other opportunities for observation and research by early childhood preservice teachers. These students may also be placed in a classroom, working with an experienced teacher implementing classroom activities with a group or individual children. Candidates may also spend more than one semester with the same children, “looping” or following them as they move to another classroom. Informal observational assessments of children are a regular part of the clinical experience, and early childhood preservice teachers often gain a strong understanding of child development characteristics through a lab school practicum.

Traditional Clinical Sites and Educator Preparation Partnerships

A vast majority of early childhood clinical experiences occur in settings other than colleges and universities. Teacher candidates may be placed in a Head Start program, a child care program, a private or public preschool, or a kindergarten–third grade (K–3) classroom. The National Association for the Education of Young Children (NAEYC) 2010 accreditation standards for early childhood professional preparation programs require that programs provide opportunities for candidates to observe and practice in at least two of these settings with at least two differing age groups (infants/toddlers, preschool–kindergarten, or K–3). Candidates should also be exposed to diversity in terms of race, ethnicity, language, socioeconomic status, and children’s abilities and disabilities.

These clinical experiences require partnerships between the teacher preparation program and the clinical setting. Often memorandums of understanding are used to clarify the roles and

responsibilities of individuals in the clinical experience triad, that is, the cooperating teacher, university supervisor, and teacher candidate. Teachers and administrators from the clinical site may serve on advisory committees for the preparation program, providing feedback that shapes the clinical experience requirements. Cooperating teachers may receive stipends for their service and have professional development opportunities with the university or college. In these clinical experiences, the teacher candidate may have paired curriculum methods courses that require assignments to be completed in the field, such as an early literacy course with accompanying assignments to do literacy-based activities and assessments with young children. In recent years, there has been debate about breadth versus depth in clinical experiences, or whether it is more beneficial for teacher candidates to have a wide variety of shorter field experiences or longer, more in-depth experiences in one setting. Whereas traditional clinical experience partnerships may provide a variety of settings, professional development schools and residency models offer more in-depth experiences for teacher candidates.

Professional Development Schools

Professional development schools (PDSs) first emerged in the mid-1980s and have since proven to be an effective clinical experience model, not only for educator preparation but also for the positive impact on the clinical setting. In a PDS model, the clinical site and educator preparation programs form a strong partnership that is based on mutual respect, accountability, and shared philosophy. NCATE defined the mission of PDSs as being more than just giving teacher candidates a quality clinical experience, but also as improving students' learning, providing opportunities for faculty and clinical teachers' professional development, and offering a rich setting for shared research.

In a PDS model, college or university courses may be taught on-site, with teacher candidates then having the opportunity to immediately apply the knowledge they're learning in their assigned classroom. Faculty may model instructional strategies

for both the cooperating teacher and teacher candidates or co-teach with the classroom teacher. Teacher candidates are in the building often and fully participate in the school community activities, such as attending parent-teacher conferences, family events, and teachers' meetings. Joint research may be conducted, with the preparation program's supervisor, mentor teacher, and teacher candidates all sharing decision making about children's learning opportunities. The college or university may also offer professional development opportunities for the PDS's classroom teachers, either through workshops, conferences, or tuition-discounted courses. With a focus on inquiry and reflective practice, a PDS model can improve the knowledge and practices of teacher candidates, new and veteran teachers, and college/university instructors. For a PDS partnership to be successful, regular formal meetings and informal discussions must occur between the educator preparation program and the PDS site, with agreements about shared resources, evaluation measures, roles and responsibilities of teacher candidates, classroom teachers, and educational methods faculty. These discussions are often facilitated by a university/college site coordinator or liaison.

Residency Models

One of the newest innovations in clinical experiences is the teacher residency model. Residency programs, often in urban high-need school districts, typically offer an initial teaching certification at the master's degree level. Residents take course work while also working in a classroom for the entire school year as an apprentice. Residents teach under the supervision and coaching of a carefully chosen, experienced, master teacher. The residency model focuses on teaching, reflection, and collaboration, with a primary emphasis on understanding the urban school environment.

Course work, often done with a cohort group, helps residents bridge the gap between theory and practice. Residents are evaluated on the same standards as the district's classroom teachers. Residents commit to remain and teach in the urban school district and continue to receive coaching

and feedback on their first two years of teaching; this coaching and feedback provides a strong induction model. For this 3-year commitment, residents receive a stipend during their apprenticeship and may also have reduced or free graduate school tuition. The Urban Teacher Residency United organization reported that research has shown that 85% of teacher candidates who complete an urban teacher residency program remain in that school district after their 3-year commitment is over. Programs such as the Boston Teacher Residency and Chicago's Academy of Urban School Leadership have been cited as national models of excellence in clinical experiences.

Co-Teaching

The co-teaching approach to clinical experiences may be used in any of the models described earlier. It is an approach that redefines the traditional roles and responsibilities of the teacher candidate and cooperating teacher in the clinical setting. With its roots in special education and based on the work of Marilyn Friend and Lynne Cook, co-teaching is defined as the cooperating teacher and teacher candidate having equal roles and responsibilities for planning, instruction, and assessment from the first day of the clinical experience. Co-teaching strategies include the following:

- One teach, one observe
- One teach, one assist
- Station teaching
- Parallel teaching
- Supplemental teaching
- Differentiated teaching
- Team teaching

The cooperating teacher and teacher candidate plan together, choosing the strategies that best help children learn the content of the lessons, with equal participation by both. Responsibility is also shared for assessment of students. Teacher candidates also have opportunities for "solo" teaching, and some educator programs place two teacher candidates in the same classroom, allowing them to co-teach and do peer evaluations of each other's

solo teaching lessons. Co-teaching strategies allow for smaller group instruction, more individual help, and better guidance and classroom management, and strengthen teacher candidates' collaboration skills. Funded by a U.S. Department of Education grant, the St. Cloud State University College of Education conducted a 4-year research project examining the effectiveness of co-teaching in clinical experiences and found that co-teaching positively impacted reading and math achievement of K–12 students, as well as teacher candidates' instructional and management skills. Cooperating teachers also reported being able to better meet the needs of all students, especially those with high learning needs.

Roles of Cooperating Teachers and University/College Supervisors

Regardless of the model or approach used, clinical experiences are dependent on the effectiveness of the mentor or cooperating teacher and the educator preparation program supervisor. The criteria to become a cooperating teacher vary across states from no specific requirements to a rigorous screening process and advanced degree. Some educator preparation programs may provide additional training or orientation to the expectations of a cooperating teacher. A key component to successful clinical experiences for future early childhood educators is the mentor teacher. This teacher provides a model of quality instruction and assessment practices, while also providing support for the novice teacher's efforts. The cooperating teacher must also have strong communication and collaboration skills and a positive attitude about teaching and young children.

The university/college supervisor also plays an important role in the clinical experience. Typically supervisors will meet with teacher candidates regularly to give informal support and also provide formal coaching of instruction. This may include a pre-observation conference, an observation of teaching skills, and a post-conference mentoring session of constructive feedback, focusing on the impact the candidate's instruction had on the children's learning and development. The supervisor

may also choose to co-teach or demonstrate a strategy for the teacher candidate. The level of support needed is dictated by the needs of the teacher candidate. Helping teacher candidates make a connection between their course work and clinical experiences, as well as reflect about their practice, is also a part of the supervisor's role. Technology may provide additional supervision opportunities with observations and conferences done via webcams, as well as online public or private discussion boards.

Characteristics of High-Quality Clinical Experiences

As noted previously, there is a great range of variability among clinical experiences in early childhood education, in terms of length of time, types of settings, expectations for teacher candidates and cooperating teachers, supervision, and support. However, guidelines such as NAEYC's 2010 standards for early childhood professional preparation and the Blue Ribbon Panel on Clinical Preparation and Partnerships 2010 report provide characteristics of high-quality clinical experiences. These characteristics include the following:

- A focus on children's learning and development in clinical experience policies and practices
- A strong connection between academic course work, both theory and methodology, and clinical experience assignments and supervision, with the opportunity to compare observed practices to defined standards of quality early childhood education
- Well-planned and sequenced fieldwork that scaffolds teacher candidates' skills and knowledge
- Evaluation of teacher candidates, the clinical setting, and the impact teacher candidates are having on children's learning and development
- Mentor teachers chosen based on well-defined criteria of excellence and who model practices consistent with early childhood professional standards
- Opportunities to observe exemplary mentor teachers and have ongoing dialogue with them about instructional decisions

- Opportunities to demonstrate academic content knowledge and understanding of children's developmental characteristics
- Opportunities to practice instructional, guidance/discipline, and assessment skills
- Regular, ongoing constructive feedback from both the mentor teacher and the university/college supervisor
- A reflective model that requires candidates to regularly consider the effectiveness of their actions on children's learning and development
- A professional learning community that models best policies and practices and welcomes the teacher candidate as a participating member of the community, including opportunities to interact and learn from supporting staff, such as counselors and therapists
- Adequate resources, including technology, and a fully staffed setting with qualified personnel
- Opportunities for inquiry and research within the classroom setting and with individual children

Challenge of Finding High-Quality Clinical Settings

While early childhood education offers a wide range of opportunities for clinical experiences, there is also a challenge in finding high-quality settings in all age levels and types of settings. In many areas of the country, there is a lack of quality infant/toddler settings, and child care centers or preschools may lack highly qualified teachers and resources. With the increased pressure for accountability and rigorous academic standards that do not address social and emotional development, primary grade classrooms are often models of developmentally inappropriate practices. One way to address this challenge is to "flood" quality sites and exemplary cooperating teachers' classrooms with multiple teacher candidates in the same classroom for extended placements. Educator preparation programs may also partner with high-need schools or programs and work collaboratively to raise the quality through joint professional development and improvement plans. Finally, if a clinical experience setting does not meet the characteristics of a high-quality setting, educator

preparation programs must provide other examples or experiences for candidates.

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See also Coaching; Early Childhood Teacher Education; Field Experiences; Master Teachers; Professional Dispositions of Early Childhood Educators; Reflective Practice

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CLOSE OBSERVATION OF CHILDREN LEADS TO POWERFUL CURRICULUM: SYLVIA ASHTON-WARNER

Sylvia Ashton-Warner (1908–1984) was a woman of many passions, and her greatest was figuring out how to teach young children effectively. Her major contribution to early childhood education, now recognized and replicated in many countries around the world, was the invention of Key Words, also called Organic Reading or Key Vocabulary, a compelling way of introducing young children to reading English. Ashton-Warner was a White woman, born in New Zealand. She struggled to teach with respect, to avoid the colonialism and racism that was then the practice of the segregated New Zealand school system. She kept extensive journals as she explored how to do this and, later in her life, wrote 11 fiction and nonfiction books, which have been translated into more than 17 languages.

Her life was portrayed in two commercial movies: *Two Loves* (1969) and *Sylvia* (1985). *Two Loves* (called *Spinster* in New Zealand) starred Shirley MacLaine. The director cast Hawaiian children as Maori children. This displeased Ashton-Warner and she refused to see the movie. By contrast, *Sylvia* was rated by *Village Voice* reviewer Andrew Sarris as “one of the ten best films of 1985.” *Sylvia* starred Eleanor David, Nigel Terry, and Tom Wilkinson. Director Michael Firth consulted with Ashton-Warner as he conceptualized the film.

Ashton-Warner grew up in a large, poor family. Her father, crippled by arthritis, stayed at home, cooking for the family and telling stories to his children. Her mother was a rural teacher, the family's wage-earner, unskilled, and strict in the "be silent, face front, recite!" way. When left-handed Sylvia was her pupil, her mother pinned her left sleeve behind her, forcing her to use her right hand. Perhaps as a result of this restriction, eyewitnesses report that as an adult Ashton-Warner was able to write a sentence on the chalkboard with one hand starting at the first letter and the other simultaneously writing backward from the period! She could also draw two animals at the same time on the chalkboard, one with each hand.

Ashton-Warner's parents had earlier had another baby they called Sylvia, who died at birth. Ashton-Warner grew up burdened with the awareness of this dead sister who shared her name.

In addition to teaching children in New Zealand and later in Colorado, United States (1970–1971) and Vancouver, British Columbia, Canada (1971–1973), Ashton-Warner wrote fiction and nonfiction books, and she taught adults in Aspen, Colorado, and in Vancouver. In teacher training school she met and later married Keith Henderson. During their courtship she sent him paintings, which she recalled in her memoir *I Passed This Way* finding 40 years later in his desk. Henderson and Ashton-Warner worked together, he as headmaster, she as infant mistress (the title at that time in New Zealand for the teacher of the youngest class, those younger than age 6). Married couples like them were permitted to teach together only in Maori schools.

During all of her teaching (1932–1960), except in Colorado, the children Ashton-Warner taught were Maori. Ashton-Warner was White, and the cultural gulf was large. It wasn't until 1949 that Ashton-Warner developed Key Vocabulary, but she had been seeking ways to bridge cultures, learning the Maori language and exploring the importance of music and art in their culture, since her earliest days of teaching. The Key Words method is Ashton-Warner's best known contribution but not her only contribution. She spent a great deal of time writing in her journal and considering what she saw and

heard in her classroom, trying to make it better—more responsive to children's needs and more likely to provoke their best efforts. Ashton-Warner was focused on understanding children. She observed and recorded what they did, what they said, what lit them up, and what turned them off.

Ashton-Warner learned to recognize that young children come to school full of material, bursting to tell others about it, like suitcases stuffed so full you must sit on them to close them. She pieced together from these observations that the first order of business in her teaching day would be to let the children "breathe out" the material they brought from home, so there would be room for her to put in some more material—which they would "breathe in." Mindful of this, she scheduled each day to alternate between times of children expressing what they brought with them, and times when she could ask them to bring active attention to what she was teaching. She organized times and spaces each day, aiming for choices that were productive, expressive, and useful, and also so that the children's creativity was supported by ample time and materials.

Ashton-Warner divided the school day into four periods, each lasting between 1.5 and 2 hours. Going against all tradition, the first period in the morning and the first period in the afternoon engaged children in all things creative, play before work, as shocking as offering dessert before spinach. This helped alleviate a problem teachers face: People (at any age) tend to behave badly when asked to do things that don't interest them and that they haven't chosen. But after they have had time to choose and to express themselves, they more comfortably pay attention to what society has asked the teacher to teach them.

Ashton-Warner's intention, coming out of her experience of World War II, was always to teach children to be peaceful, a complicated goal among Maori people who value fierceness, especially in their boys and men. She wrote often about the child as a volcano, with only one vent—angry explosion—for relief of the internal pressure. The teacher's job was to open a second vent—peaceful creativity. Believing this, she daily offered children

the arts: clay, paint, dancing, singing, and drawing—things she herself had learned to use after a debilitating “mental breakdown” from 1938 to 1939 during which she was treated and educated about psychology by a supportive neurologist. She played piano and painted and drew very well.

This movement of thought—from wanting peaceful children to offering them the arts so they would express violent feelings nonviolently—would appear in the work with young children in the city of Reggio Emilia, Italy (also beginning immediately after the end of World War II) and can be traced through 20th-century thinkers John Dewey and Sir Herbert Read, all the way back to Plato. Ashton-Warner was a reader, a lifelong student. She paid attention to these theorists and was scientific, integrating what she learned from her observations of the children and the community into her curriculum. She was deeply influenced by Read’s writing, which was being promoted by the Department of Education in New Zealand during her teacher training. Read sums up his belief in this way:

What I have in my own mind is a complete fusion of the two concepts, so that when I speak of art I mean an educational process, a process of upbringing; and when I speak of education I mean an artistic process, a process of self-creation. (Read, 1966, p. xxiii)

New Zealand schools were segregated during Ashton-Warner’s teaching life, with White schools teaching a fundamentally European/North American curriculum, and Maori schools teaching, but less successfully, the same curriculum. Ashton-Warner was firmly committed to letting children be themselves, not trying to change them into cookie-cutter copies who would meet official standards. Her “follow the child” beliefs moved her to design ways to serve children’s interests and needs; all of this was opposite of the teacher-in-front-of-the-class style of teaching that was prescribed in schools like hers at that time. She saw children as people with their own interests, who could be taught skills through those passionate interests.

Always in creative ferment, Ashton-Warner urgently needed quiet time—for playing music and painting and for designing work for the classroom—away from her own three children and husband. From her earliest teaching she found or made herself time and private places to reflect on what she had seen and heard and to document and express what she felt and thought. Sometimes at five or six in the morning, before work (and sometimes Saturdays), she ran away from home to work. She called her creative urge her “monster” and was clear that she must keep her relationship with “him” away from her family. She named all of her retreat places “Selah” a word from the Hebrew Bible that has many meanings, one of which is an instruction on how to read the text, approximately: “stop and listen.” The earliest Selahs were caves and shacks, but as Ashton-Warner became a well-known author and with her husband built a beautiful house, that Selah was a separate, comfortable study room.

The relationship between Ashton-Warner and her husband was much more egalitarian than was the norm in New Zealand in the 1930s to 1950s. Henderson took care of the children for hours several times a week to allow Ashton-Warner to work in her Selah. His children remember him as the more available, generative parent and her as someone who needed time and space away from them to deal with her urgent need to use art to represent her experience.

Early educators will find some of Ashton-Warner’s books more helpful than others. *Bell Call*, *Incense to Idols*, and *Three* have little or no bearing on education in this century, but *Teacher* and *Spinster* do. Their publication came in a strange order: First Ashton-Warner tried to get her writing about teaching published, but publishers rejected it. Then Ashton-Warner rewrote her teaching book, adding some love interest and telling it as a novel, *Spinster*. *Spinster* was a best-seller, reviewed on the front page of the Sunday Book Review section of *The New York Times*. Once *Spinster* made her famous, Ashton-Warner could go back to what she first intended and publish *Teacher*. The two books overlap about one third of their contents. She became a prize author to the American editor

Robert Gottlieb. Her American book *Spearpoint*, like all the books she wrote after her husband's death in 1969, has a depressed tone and complains about the undisciplined children she taught in Aspen, Colorado. Her autobiography, *I Passed This Way*, unpacked her many journals into a long story of life and work. Her book *Myself*, which tells of her most productive period of teaching, has strong appeal to young adult readers. It tells of her supporting herself, believing in her work, going against the odds, and accomplishing what she set out to do. It is, arguably, the most feminist of her writings. *Greenstone*, the novel based on her childhood, features a father who tells stories to his children and Maori and White children who live on either side of the Whanganui River.

Her life sets an example, giving teachers an idea of the ways one can develop a perspective that leads to inventing more appropriate teaching methods and fuller self-expression both for the children and for the teacher. Ashton-Warner stands in history as a difficult, thoughtful woman who cared passionately about getting teaching right and was analytical, passionate, and persistent in her approach to children's development and her own.

Sydney Gurewitz Clemens

See also Curriculum and Early Childhood Education; Emergent Curriculum; Key Words; Reggio Emilia Approach

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COACHING

Coaching in early childhood education can take place in a variety of settings and can occur throughout the course of a person's career in this field. However, the concept and purpose of coaching remains relatively the same across settings and professional life stages. Coaching can be defined as a voluntary, interactive process between a coach and a learner who both engage in observation, reflection, and learning to support the learner's acquisition of knowledge, skills, or dispositions. This entry provides information about the essential elements of coaching in early childhood, including components to successful coaching relationships, stages of coaching, various structures for coaching, and the benefits of engaging in coaching relationships.

Overview

Increasingly, coaching in early childhood education is becoming a much sought after approach to professional development since coaching can be a benefit for both the coach and the learner. The coach engages with the learner and shares his or her knowledge and experiences to support the learner in meeting their stated goals. Assisting colleagues with improving their skills provides coaches with a sense of appreciation for the knowledge they have acquired over their years in the field and has been shown to serve as a retention tool. Early childhood educators who serve as coaches view their professional experiences as more valued and valuable when they are able to share their knowledge with others. Thus, coaching can have benefits

for the coach, the learner, the children and families in the care of the learner, the learner's workplace, and the profession as a whole.

The Coaching Relationship

Engaging in a thoughtful, honest, meaningful, and professional coaching relationship can be a career changing experience for both the coach and the learner. Considerations such as time commitments, goodness of fit with personalities, and knowledge and skills appropriate to the goals of the learner are just a few of the concerns that must be attended to in order to support an effective coaching relationship in early childhood. Both the coach and the learner must have appropriate, realistic, and similar goals in order for the relationship to have the desired outcomes.

Establishing and prioritizing goals are a critical component that the learner needs to begin before seeking out an appropriate coach. A coach should have the skills and knowledge to help support the learner in attaining his or her goals. The coach should also have the personality and behavioral traits to communicate effectively with the learner. If the coach and learner cannot listen to and hear each other, the benefits of the coaching relationship will be limited and neither person will receive the full benefits of the experience.

Stages of Coaching

The first stage of a coaching relationship occurs either when the learner seeks out a coach or a coach invites a learner into the process. This stage develops from a process of observation by either the learner or the coach and leads to an awareness of a skill or knowledge base that has a gap or is missing completely. Identifying a need is a critical step in determining an appropriate coach and in establishing specific goals for addressing needs. Learners need to be receptive to the coaching process and coaches need to be willing and able to share their experiences with the learner. Developing a plan to reach the desired goals and outcomes occurs during this stage and should be a joint conversation between the learner and the coach. This

collaborative approach has been the focus of much research in the field and is viewed as the most likely approach to ensure successful attainment of the learner's goals.

The second stage of a coaching relationship is for the coach to gather data on the learner's current knowledge and skills so that a clear understanding of where the learner is with his or her skills and knowledge can be assessed. Only with this knowledge can a viable plan of action be developed specifically to address the identified needs of the learner. The coach may elect to conduct observations of the learner, conduct interviews with the learner and the people impacted by the goals the learner and coach have established, and provide opportunities for the learner to observe the coach in similar situations. The learner should be integrating new knowledge during this stage of the coaching process.

Reflection and evaluation are the final two stages recommended for successful coaching experiences. In these stages, the collaborative relationship with the learner and the coach shifts to a period of summarization and analysis of the observations and actions that have occurred during the earlier stages of the relationship. A thorough review of the strategies that were effective, areas that may still need further development, and the creation of a continuation plan is discussed. Additionally, the effectiveness of the coaching relationship is evaluated.

The Benefits of Engaging in Coaching Relationships

Coaching relationships provide experiences that can benefit coaches, learners, children and their families, as well as the people the learner interacts with at the work environment. When learners gain knowledge and skills that are specific to their concerns they are more likely to implement the strategies and information gained through the coaching experience. Coaching provides learners with the confidence to practice their new skills and to make a positive difference in the lives of the children in their care. Learners also increase their understanding of the value of observation and

reflection and can use these activities throughout their career.

Coaches and colleagues can benefit from successful coaching relationships by sharing their experiences and knowledge with learners. Offering their experiences provides a sense of validation and affirmation for the coaches. In addition, coaches often report learning from the learners and from the coaching process. In essence, serving as a coach can be considered a professional development activity for the coach as well.

The children and families that the learner interacts with will benefit from the new knowledge and skills that the learner acquired during the coaching process. The learner may have elected to focus on increasing communication skills, child development knowledge, curriculum development for the classroom, language acquisition activities for young children, or alternative therapies for the children in his or her classroom. The learner can then apply these new skills and strategies to directly affect the children and families in their care.

As learners increase their awareness of best practices in the field of early childhood, they may gain the self-assurance to serve as a coach in the future—continuing the coaching cycle to assist all early childhood educators to provide the best care for young children and their families.

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See also Cooperating Teachers; Early Childhood Teacher Education; Mentors; Professional Development for Diversity; Professional Dispositions of Early Childhood Educators; Professionalism

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COGNITIVE DEVELOPMENTAL THEORY

Jean Piaget's (1896–1980) *cognitive developmental theory* offers descriptions and explanations of children's mental and social-emotional growth from infancy to adolescence. Piaget developed creative methods to assess children's thinking in content areas that are relevant for early education, including language and symbol use, moral judgment, mathematics, logical reasoning, and spatial relationships. Cognitive developmental theory is the basis for *constructivist* approaches to early education that provides a framework for determining the aims of early education and teachers' roles in creating inclusive and effective learning environments for young children.

Cognitive Development in Infancy: Sensory-Motor Intelligence

Cognitive developmental theory mapped the origins and the gradual progression of goal-directed, intentional behaviors from birth to about 18 months of age. These achievements are foundational for subsequent growth of intelligence during childhood. These adaptive, instrumental infant behaviors reflect *sensory-motor* intelligence since the underlying framework for behaving is action-based, not symbolic.

Stages of Sensory-Motor Development

Stage 1: Reflexes

At birth, infants show spontaneous global activities and several specific reflexes such as sucking and grasping. The newborn's first intelligent adaptations consist of differentiating these reflexes from spontaneous global activities. Sucking, for example, becomes more systematic just a few days after birth.

Stage 2: Habits

The repetition of reflexive behaviors such as sucking leads to behaviors that are no longer reflexive but reflect a greater degree of instrumentality on the part of the infant. For example, the infant might accidentally place a finger in her mouth

and begin to suck vigorously. Whether stemming from the spontaneous activity of the infant, or from repetitions in events initiated by caregivers, habits are commonplace.

Stage 3: Primary Circular Reactions

At around 4 to 5 months of age, most infants are able to coordinate vision and grasping. This leads to behavioral patterns called *primary circular reactions* that mark a transition from habits to deliberate means-end, problem-solving behaviors. In a primary circular reaction, interesting or pleasing outcomes that result from actions cause the infant to repeat the action in order to bring about the interesting outcome once again. Although they represent intellectual advancement beyond habits, end results are still not differentiated from the means of attainment in primary circular reactions.

Stage 4: Simple Practical Acts of Intelligence

Around 6 to 9 months of age, infants form behavioral intentions prior to acting and are able to use different actions already in their behavioral repertoires to attain objectives. These practical acts of intelligence often consist of coordinating various means with intended outcomes. Infants understand that objects that they have just seen continue to exist even if they are out of sight. They will search for the object when it is covered under a blanket, for example. However, the infant's understanding of *object permanence* is limited at this stage. Infants will continue to search for an object under the first cover that revealed the object rather than track movements to successive covers.

Stage 5: Sophisticated Practical Acts of Intelligence

Toward the end of the first year, infants show increasing sophistication in attaining objectives. For example, if a desired object is placed on the far end of a blanket out of reach, the infant will pull on a proximate corner of the blanket to bring the object near. The infant is now capable of developing new means to achieve desired ends. At this

stage, infants will search for an object that has been successfully hidden in two different locations but will discontinue object searches when covers, nesting, and hiding occurs out of the infant's view.

Stage 6: Dawn of Representational Intelligence

Having established a firm base of practical or sensory-motor intelligence in stages 1 to 5, a qualitatively new feature appears between 12 to 18 months of age. The infant is able to mentally derive new means to achieve desired ends prior to acting. The infant can devise a novel behavioral sequence to achieve a goal without any trial-and-error attempts. This reflects a milestone in the growth of intelligence. Infants now understand that objects exist independently of the self and continue to search for an object that has been hidden within multiple, nested covers.

Imitation and Play in Infancy

Early forms of imitation and play are evident in infancy starting around stage 2. In imitation, the baby attempts to reproduce behaviors performed by others. At first, the infant is only capable of doing so when the person imitates a behavior just performed by the infant. Subsequently, infants will attempt to reproduce adult-initiated behaviors, even novel ones. In the earliest form of play, the infant repeats actions already acquired without any social prompting. Imitation and play are indicators of the child's cognitive achievements.

Cognitive Development in Early Childhood

Cognitive developmental theory maintains that the sensory-motor achievements of infancy are reconstructed at an interior, cognitive level from early to late childhood. For example, between ages 1 and 2 years, babies are able to navigate familiar environments with creeping, crawling, and walking. They show a practical understanding of left-right and near-far relations; they can navigate around detours, and so forth. This practical understanding of spatial

relations is not immediately registered in children's mental representations of spatial relations. For example, children's drawings of physical environments do not successfully represent left-right and near-far relationships until middle to late childhood. In general, children's understanding and representations of what they know how to do with their bodies and senses take several years to perfect and become accurate. Practical success precedes representational understanding in child development.

Preoperational Thinking

Between the ages of 2 and 6 years, children show growth in their understanding of the physical and social worlds, in their ability to reason logically, and in their use and mastery of speech, language, and other symbolic instruments such as symbolic play, mental imagery, and drawing. At the beginning of this period, children's symbol use, thinking, and problem solving are highly subjective and tightly bound by prior experiences and contexts. Although capable of using symbols to represent absent realities, young children have difficulty generating ideas and possibilities that go beyond their everyday life experiences. Imitation of others, first evident in infancy, is a ubiquitous aspect of early childhood. In the context of games, children ages 4 to 6 years understand that games have rules, and they view the rules as immutable and not open to modification. This belief is held even though children have difficulty adhering to the rules. In the world of preschool children more than one child can "win" a game.

Although capable of using thoughts to plan and organize problem-solving approaches before acting, young children's ideas and judgments are subjective, imprecise, and qualitative in nature, especially as compared with those of older children and adolescents. For example, when asked to reason about the impact of a transformation on an initial state, young children struggle to coordinate {initial state}-transformation-{end state} relationships. A 4-year-old child might judge, for example, that the quantity of liquid has increased when a

glass of juice is poured from a shorter, stouter glass, into a taller, thinner glass. The child reasons on the basis of the end-state and only one dimension (height) rather than considering two dimensions, equating "taller" with "more quantity." The ability to mentally coordinate states of reality with transformations involves *operational thinking*. An operation is an internal, thinking act that has the property of *reversibility*. Young children's operational thinking is not fully formed—lacking the property of reversibility—and is called *preoperational*. Cognitive developmental theory maps out the progression from sensory-motor to preoperational to operational thinking in many content areas such as understanding of logical reasoning, physical quantity, causality, and time and space.

Imitation and Play in Early Childhood

Growth in operational thinking underlies growth in symbol use according to cognitive developmental theory. The theory was the first to point out that children's initial facilities with language, mental imagery, symbolic play, delayed imitation, and drawing become evident at the same point in cognitive development. Subsequent growth in use of these symbol systems both stems from and supports growth in operational intelligence.

Even with the most permissive parenting styles, young children have many constraints on their behaviors for reasons of health, safety, and socialization. *Symbolic play* allows young children to satisfy affective needs via self-expressions that are not governed by adults and older children. In symbolic play, acting either alone or with a playmate, children use speech, gestures, and objects to re-create and represent previously experienced realities. These representations both exercise growing intelligence and allow the child to "work through" experiences that were emotionally laden. Imitations of others' behaviors witnessed in the past are typically embedded in symbolic play sequences. Young children enjoy activities that involve repetition and attention to the external environment, such as singing songs, coloring scenes, listening to stories, and so forth. Like symbolic play, these and other

imitation-based activities are an important and necessary aspect of cognitive development.

Concrete Operational Thinking

Between the ages of 6 and 8 years, many of the cognitive achievements of early childhood continue to develop. Children's thinking and reasoning about people and real (not hypothetical) objects become more systematic, flexible, and reversible. In middle childhood, thinking advances from preoperational to *concrete operational* in some but not all domains. For example, children are able to reason correctly about physical quantities and certain numerical relationships, but they struggle with complex properties such as understanding volume and proportional relationships. Thus, in middle childhood one can observe a mixture of preoperational and concrete operational thinking depending on the domain or content area in question. In addition, children's reasoning about objects is more advanced than reasoning about verbal propositions.

By middle childhood, most youngsters have had extensive experiences with age peers. Cognitive developmental theory maintains that peer experiences are an important factor in both the cognitive and social-moral growth of children. In interactions with adults there is always an element of *unilateral respect* since the adult has final say in what the child can and cannot do. In peer relationships, the possibility for *mutual respect* is at hand since children have to negotiate interactional rules without adult supervision. For example, children might take turns deciding who determines the next joint activity. Although symbolic play is still enacted in middle childhood, games with rules are discovered and usually found to be enjoyable. During this age period, children begin to understand that game rules are "social contracts."

Explaining Cognitive Development

Cognitive developmental theory maintains that the most important source of intellectual growth and advancement lies within each child. The theory postulates (a) children are born with tendencies to

be active agents in the physical and social worlds; (b) children have a biologically based inner ability to self-regulate (called *equilibration*); and (c) self-regulation coordinates the contributions of other key factors in intellectual development, including maturation of the nervous and endocrine systems, experiences with physical objects, and social interactions, including teaching, transmissions, and socialization.

Meaning Making

Cognitive developmental theory assumes that all children *make meaning* via the application of cognitive systems that are formed soon after birth. Parents and teachers can infer the nature of the infant's or child's cognitive system by observing regularities in everyday behaviors. In addition, cognitive developmental theory has created specialized methods to assess children's thinking and problem solving that can be used to supplement everyday observations. For example, there are ways to test whether an infant has developed object permanence; *clinical interviews* test for understanding of reversibility and operational intelligence. Meaning making is a ubiquitous aspect of life in early childhood. Intellectual curiosity reflects children's need and desire to apply their previously developed cognitive frameworks to present situations and contexts. Meaning making entails a relationship between the child's cognitive system and a given context of application.

Assimilation and Accommodation

Cognitive systems make meaning via processes of *assimilation* and *accommodation*. Assimilation is an inner-directed process such that an object, event, or problem is incorporated into a cognitive system. Accommodation is an outward-directed process such that the cognitive system takes account of the specific features of the object, event, or problem in question.

Assimilation and accommodation are simultaneous processes that occur in every act of knowing. The processes of assimilation and accommodation always result in a degree of success or understanding depending on how well equipped the cognitive

system is able to handle the given context. Some forms of meaning making, such as imitation, rely more heavily on accommodation. In imitation, the child seeks to copy something rather than interpret it. Other forms of meaning making, such as symbolic play, rely more heavily on assimilation. In symbolic play, the child is not concerned with a faithful reproduction of an object or event but instead seeks to create his or her own meaning or interpretation. Both imitation and symbolic play are reflections of the child's inner cognitive system. However, intellectual advancement is more likely to occur when assimilation and accommodation are more equally weighted or balanced in a given context of occurrence.

Growth in Meaning Making

Meaning making in a given context is a necessary but not sufficient first step for growth or advancement in the cognitive systems. The default tendency following application of cognitive systems is that they remain unchanged—despite how successful or unsuccessful they might have been. Indeed, young children enjoy repetition and resist making changes to familiar routines. Experiences of success or failure in attaining a goal—whether they occur in private or social (including classroom) contexts—may or may not lead to self-regulatory efforts to modify the cognitive systems. The system needs to experience *perturbations* in order to modify itself. Although social processes such as verbal feedback or scaffolding in problem solving play a role in the growth of cognitive systems, they are not sufficient to ensure lasting change and growth. The self-regulatory process of equilibration orchestrates or coordinates the overall functioning and growth of cognitive systems.

Implications for Early Childhood Education

Children Are Intellectually Curious

Cognitive developmental theory teaches us that children are intellectually curious. The source of this curiosity lies within children as part of their

evolutionary birthrights. If properly structured, early childhood classrooms do not have to be overly concerned with children's attention spans or with providing extrinsic rewards for engagement with curriculum tasks. Young children are eager to “exercise” their cognitive systems.

Individual Differences in Speed of Development

Although all children progress through the stages of cognitive development, the speed of attainment varies considerably both within a particular cultural or disability context and across contexts. For example, one child might attain concrete operational understanding of a given phenomenon at age 6, whereas another child might attain the same level of understanding at age 8. Cognitive developmental theory emphasizes the fact that these two children progress through the same levels of understanding rather than the fact that one child is “ahead” of the other child in terms of age of attainment. The speed of academic mastery is not emphasized in cognitive developmental theory.

Probe for Understanding

Early childhood educators need a firm grasp on what their students know and can do. By probing for understanding using clinical interview methods, early childhood educators can obtain a more complete picture of what students know. For example, a child might answer a question correctly, but his or her reasoning might be shallow or superficial. The child might be simply repeating a parent's or teacher's answer without understanding why that answer is correct. Another child might answer incorrectly but have good reasons for his or her answer and be close to devising the correct answer. A teacher whose assessments stop at right or wrong answers might misclassify children's overall levels of understanding. As time permits, it is best to probe for why children reason and conclude as they do. The mental processes and strategies that lie behind children's “final answers” are extremely instructive for early childhood educators.

Teachers' Roles

Cognitive developmental theory has a clear vision for teachers' roles in creating effective early childhood classroom contexts. Children cannot be left to their own devices with the hope that they will "discover" curriculum objectives with minimal instruction or guidance. Such an approach runs the risk that children will respond to the curriculum in individualistic, playful manners and not make adequate progress in content mastery. On the other hand, teacher-dominated instructional approaches with rigid schedules for completion of curriculum tasks run the risk of forcing students to imitate or copy what the teacher wants or what other children do and say.

A middle-ground approach championed by cognitive developmental theory is the teacher as *mentor*. Based on solid mastery of the curriculum content and the nature of children's development, teachers can tailor instructional approaches to individual children's needs. They do so by posing developmentally appropriate curriculum tasks and monitoring children's understanding as students engage with the materials. Teachers play a critical role in constructivist classrooms.

Finally, teachers need to show that they respect children's efforts to learn and master curriculum content. One way to do so is to model intellectual inquiry. Teachers need to show that they are learners, too. This sets a context in which respect for each student's efforts at learning becomes normative. The context in which children learn—classrooms with mutual respect for others' opinions and approaches—is critically important in the early childhood classroom. How children learn in classrooms is as important as both "what" and "how much" they learn.

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See also Assessment, Limitations of; Constructivism; Constructivist Curriculum; Peers and Play; Stage Theories; Thinking

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COHABITATION

Cohabitation, or living together in an intimate sexual relationship outside of marriage, has become commonplace in the United States. Just a few decades ago, marriage was the foundation for intimate coresidential partnership for heterosexual couples. Now roughly 70% of marriages begin as cohabiting relationships, and nearly 70% of women ages 30 to 34 have cohabited at some point. In addition, cohabitation has become the main source of nonmarital childbearing. According to analyses conducted by the National Center for Family and Marriage Research and reported in 2015, about 43% of children are born outside marriage. Of these, nearly 60% are born to cohabiting couples. Thus, the majority of nonmarital births are not to single women but to cohabiting couples.

Children are thus involved in cohabitation. Social and behavioral scientists are studying the impact and meaning of cohabitation in general as well as its

implications for children. This entry reviews scholarship on the latter. All numbers reported here are based on data from the U.S. Census Bureau or on analyses of high-quality, nationally representative survey data.

Children in Cohabiting Unions

There are two ways that children experience this family type. The first is by being born to cohabiting parents; the fraction of births to cohabiting parents has increased substantially from 6% in the 1980s compared to nearly 25% for births occurring between 2009 and 2013, according to the National Center for Family and Marriage Research. The other way is when the primary parent, typically the mother, begins to live with a boyfriend. This is often called a “cohabiting stepfamily.”

The U.S. Bureau of the Census reports that 40% of opposite-sex cohabiting households include children. The percentages are higher for specific age ranges. In cohabiting households in which the female partner is 30 to 34 years old, the percentage with children is 56%; for 35- to 39-year-olds, the percentage is 63%.

There are also differences by race and ethnicity. For Whites and Asians, the percentage of cohabitations in which children are present is 37%. Among Blacks and Hispanics, the corresponding percentages are 49% and 57%, respectively. In addition, parents' education, often used as a rough proxy for social class, is associated with differentials in whether children are present in cohabiting relationships. The most highly educated, those with a bachelor's degree or more, are least likely to have children in the household (19%), whereas those who did not finish high school are most likely (57%).

Correspondingly, childbearing while cohabiting is not unusual, but it is least common for the most highly educated. In other words, there is an inverse correlation between social class and the likelihood of children being born outside marriage. Stated another way, those who are economically disadvantaged are more likely to bear children outside of marriage, including while cohabiting. Still, although highly educated women are much less likely to have a nonmarital birth overall than less educated

women, when they do, they are more likely to do so while cohabiting than as a single woman. For instance, 44% of women without a high school degree who have a nonmarital birth are living with the biological father. The percentage for women with at least some college education is 60%.

These numbers underscore a key theme in the scholarship on cohabitation: Cohabitation tends to be a step to marriage among the most economically advantaged (i.e., cohabit, marry, and then have children). In contrast, although economically disadvantaged couples desire marriage as much as their more advantaged counterparts, they are less likely to marry. Studies suggest they do not feel ready to marry unless and until they attain a sense of economic stability and a positive economic trajectory.

Cohabitation and Child Well-Being

That cohabitation is so prevalent in the lives of children today has sparked debate among scholars and policy makers alike concerning the implications of parental cohabitation for child well-being. Just as numerous studies in the 1980s and 1990s explored the implications of divorce for children, family scholars are now examining the ramifications of cohabitation for children.

Research suggests that a major ramification concerns family instability. This matters because children typically fare best in stable family structures; numerous studies have documented that family instability tends to have negative consequences for children.

Cohabiting relationships in general are short. Most dissolve or become marriages within a few years of the start of the cohabitation, and they are much more likely to dissolve than marriages. Indeed, studies show that children born to cohabiting couples are more likely to see their parents' relationship dissolve than children born to married parents. Approximately 15% of children born to cohabiting couples experience the end of their parents' union by age 1, half by age 5, and two thirds by age 10. Instability is much lower for children born to married parents. Only 4% and 15% experience their parents' separation by ages 1 and 5, respectively, and 28% by age 10.

The upshot of instability is its connection to child well-being, a major focus of research on cohabitation. In general, studies indicate that parental cohabitation negatively affects child well-being across numerous outcomes, especially in comparison to children raised in married-couple families. Although many children fare well, parental cohabitation has been linked to earlier sexual initiation and greater odds of teen pregnancy for girls, poorer educational outcomes, and behavior problems.

Is it cohabitation itself that causes poorer outcomes? Most scholars would answer “not necessarily.” Children experiencing parental cohabitation are typically disadvantaged in other ways relevant to well-being compared to children raised in married-couple families. Economic status is one of those ways. According to 2014 data from the U.S. Census, nearly 50% of children in cohabiting families are living in poverty compared to 11% of children in married-couple households. Thus, the idea is that cohabitation itself is not an issue but is more commonly the site for childbearing and childrearing among less advantaged groups.

Indeed, studies indicate that differences in family stability and economic well-being do partially explain why children are worse off in cohabiting versus married households. On average, cohabiting families are poorer and more fragile.

Conclusion

Recent decades have seen dramatic increases in the number of couples who cohabit, and many of these couples have children. Research suggests that children experiencing parental cohabitation face some obstacles. Two primary ones are family instability and a lack of economic resources. To the extent that children in cohabiting families could live in as stable living arrangements as children with married parents, research would likely show fewer differences in well-being between these groups of children. The same is true for economic resources; if income could be equalized across family structures, we would arguably see a narrowing of the family structure gap in child well-being.

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See also Determinants of Child Development; Family Structure; Family Structure Diversity in the Early Childhood Program; Partnership Transitions; Social Class Effects on Development and Learning

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COLLABORATIVE FOR ACADEMIC, SOCIAL, AND EMOTIONAL LEARNING

The Collaborative for Academic, Social, and Emotional Learning (CASEL) is the premier organization advancing research, school-based programming, and public policy focused on the development of children’s social and emotional competence. Founded in 1994 and based in Chicago, Illinois, CASEL aims to integrate evidence-based social and emotional learning (SEL) into education settings from preschool through high school. This entry summarizes CASEL’s orienting definition of SEL; some key accomplishments; and plans for future developments in SEL research, policy, and practice.

Defining Social and Emotional Learning

CASEL has identified five interrelated sets of cognitive, affective, and behavioral competencies that are critical to helping young people succeed in school and life. Notably, these competencies are not learned in isolation; instead social and emotional learning, the process of acquiring and applying the skills defined in the following list, is rooted in a child's social relationships with adults and peers. The five core competencies, as defined by CASEL, are as follows:

1. *Self-awareness*: The ability to accurately recognize one's emotions and thoughts and their influence on behavior
2. *Self-management*: The ability to regulate one's emotions, thoughts, and behaviors and to set and work toward personal and academic goals
3. *Social awareness*: The ability to take the perspective of and empathize with others from diverse backgrounds and cultures and to recognize family, school, and community resources and supports
4. *Relationship skills*: The ability to establish and maintain healthy and rewarding relationships with diverse individuals and groups through communicating clearly, listening actively, cooperating, and negotiating conflict constructively
5. *Responsible decision making*: The ability to make constructive and respectful choices about personal and social interactions based on consideration of ethical standards, the realistic evaluation of consequences of various actions, and the well-being of self and others

CASEL views integrated school-based SEL programming as the most promising educational reform to promote the academic success and well-being of children and youth. Successful SEL programs not only aim to foster the core competencies defined earlier but also promote positive student attitudes about self, others, and school, and support the creation of caring classroom environments and school

cultures where children and adults feel a sense of safety and belonging. Research into the effectiveness of SEL programs shows that they lead to better school adjustment and academic performance for students. Schools that implement such programs have seen beneficial changes in their students such as gains in positive social behavior and peer relationships, fewer conduct problems, reduced aggression and reduced drug use, less emotional distress, and better grades and test scores.

However, CASEL is keenly aware that the implementation of SEL programs necessitates careful planning and integrated support at all levels of the education system. In its theory of action for systemic SEL, CASEL argues that SEL programs are most powerful when used as a unifying framework to coordinate efforts to promote positive school culture and climate, student-centered learning, youth development, health and mental health, character, service-learning, and citizenship. Throughout its research and publications, CASEL emphasizes that SEL efforts are most beneficial when they

- include theoretically sound, research-based classroom instructional practices that promote children's social-emotional competence and character;
- encourage student engagement in positive activities in and out of the classroom;
- are implemented by educators who receive continuing professional development and administrative support at the district central office and school levels;
- encourage broad family and community involvement in program planning, implementation, and evaluation; and
- are evaluated regularly to monitor implementation, assess student outcomes, and improve future efforts.

Key Projects and Initiatives

CASEL acts as a clearinghouse for cutting-edge research into SEL; translating scientific knowledge into effective district, school, and classroom practices; and disseminating information about scientifically based SEL approaches. CASEL works to

enhance the professional preparation and learning of educators so they have the knowledge and tools to implement high-quality SEL instruction. Furthermore, CASEL networks and collaborates with educators, scientists, policy makers, community leaders, and child advocates to establish federal, state, and local education policies that foster high-quality implementation of SEL practice. Currently, CASEL is collaborating with top scientists and practitioners to advance SEL research, practice, and policy in an ambitious effort to take SEL to scale nationwide. Although CASEL's work encompasses SEL from preschool to high school, this entry focuses primarily on early childhood programming across education standards, curriculum, assessment, and implementation in preschool and elementary settings.

Disseminating information About SEL Programs to Early Childhood Educators. In an effort to further support the adoption and implementation of SEL programs, CASEL has developed guidelines to help educators identify appropriate evidence-based SEL programming for their students. CASEL staff review and judge nationally available curricula for their effectiveness and disseminate information about the best scientifically based programs available to educators. The *CASEL Guide: Effective Social and Emotional Learning—Preschool and Elementary School Edition* was published in 2013.

The *CASEL Guides* provide a systematic framework for evaluating the quality of classroom-based social and emotional learning programs. They then apply this framework to identify well-designed, evidence-based SEL programs with potential for broad dissemination to schools across the United States. The programs that CASEL recommends must meet three criteria: (1) be a well-designed classroom or school program that systematically promotes students' social and emotional competence, provides opportunities for practice, and offers multiyear programming; (2) deliver high-quality initial training and ongoing technical assistance to ensure sound implementation; and (3) be research-based, with at least one carefully conducted evaluation that documents positive

impacts on student behavior and/or academic performance. Through the *Guides*, CASEL also shares best-practice guidelines for district and school teams, explaining how to select and implement SEL programs and recommending future priorities to advance SEL research, practice, and policy.

Supporting Federal and State SEL Policies. In part because of CASEL's earlier work, there has been significant progress in the past decade establishing SEL as a component of education policy. CASEL regularly collaborates with congressional and U.S. Department of Education staff, recommending specific language for legislation. CASEL worked to promote the Academic, Social, and Emotional Learning Act of 2013 (H.R. 1875), which would have allowed flexible use of federal funds to train teachers and administrators to implement SEL programming.

Early in 2015 CASEL worked to support the introduction of two SEL-related bills to Congress: H.R. 497, the Supporting Social and Emotional Learning Act, to require training for teachers in SEL programming, and H.R. 850, the Academic, Social, and Emotional Learning Act, to support evidence-based SEL programming. Additionally, CASEL has worked to support a companion bill introduced to the Senate (S. 897) in 2015 to support the use of evidence-based SEL programming.

Ultimately, through its policy work, CASEL aims to add language to the Elementary and Secondary Education Act and Department of Education competitive grants that would promote SEL adoption, implementation, and evaluation.

CASEL has also worked extensively at the state level, advocating for and informing the development of state standards of SEL. CASEL worked closely with the Illinois State Board of Education when, in 2004, Illinois became the first state to establish preschool to high school SEL standards as part of its student learning standards. In an effort to elucidate the status of SEL standards nationwide, CASEL initiated an ongoing scan of state policies and standards related to social and emotional learning in 2010. The purpose of CASEL's state scan is to assess current SEL standards across

the country. The state scan project called attention to the fact that although all 50 states currently have free-standing SEL standards for preschool children, there are only a handful of trailblazing states implementing SEL standards from prekindergarten through 12th grade.

In 2013, CASEL published a brief report based on these state scan efforts calling for alignment of preschool and K–12 state standards for SEL. This brief report presents overviews of SEL competencies and state standards and includes examples of aligned SEL standards in two states, Illinois and Pennsylvania, which have been leaders in the field.

Evaluating SEL Assessment. The inclusion of SEL in state standards of learning has increased attention to outcomes at the classroom level. Thus, more than ever, valid and reliable research-based social-emotional assessment tools are necessary to support program evaluation and to assist educators in maximizing the success of specific children. High-quality direct assessment of SEL in early childhood, in particular, is both developmentally appropriate and more pressing given that SEL programs and policies at this age may ameliorate some of the effects of poverty on school readiness.

Recognizing this need, CASEL convened a work group in 2010 to create a compendium of SEL-associated assessments for preschool through elementary school. Through the compendium, CASEL aims to enable researchers and other interested users to track young children's SEL across the five core competencies defined earlier. In addition to child assessments, the compendium also includes assessments of the classroom contexts in which SEL takes place, including ratings of classroom management, instructional support, healthy relationships in schools, social and emotional skills instruction, and opportunities for social and emotional skill applications. Finally, assessments of SEL-related academic outcomes were also included (e.g., attitudes toward learning, cooperative participation in the classroom). For each area of assessment, the extant tools considered useful were organized by age and type (e.g., teacher report, observational or direct assessment). Summaries are

provided for each assessment tool's psychometric properties and administration procedures. The compendium is available on the CASEL website for public use.

Collaborating With School Districts Toward Systemic SEL. In 2011 CASEL launched its national Collaborative Districts Initiative (CDI), aimed at supporting districts' capacities to promote SEL for all students. Through the CDI, CASEL is partnering with eight large urban school districts to improve student outcomes by building district capacities to support SEL. The CDI is designed to achieve two complementary goals:

1. To develop districts' capacities to plan, implement, and monitor systemic changes that will impact schools and classrooms in ways that enhance students' social-emotional development and academic performance
2. To document lessons learned that can inform future efforts to support systemic SEL implementation in districts across the country

Creating and Evaluating Resources for Schools. One of the resources being utilized in the ongoing CDI is the CASEL *SchoolKit*. The *SchoolKit* is a school-wide support intervention that is based on strong theory and empirical research on implementation. It is innovative because it provides strategies for building schools' capacity to effectively implement and sustain evidence-based SEL programs, taking into account individual and organizational factors that influence the implementation and that directly influence student outcomes.

Beginning in 2014, with support from the U.S. Department of Education's Investing in Innovation (i3) Funds and NoVo Foundation, CASEL launched a study to assess the differential impact of free-standing classroom-based SEL versus classroom-based SEL that has been fully integrated school-wide. The study will determine if CASEL's school-wide approach to supporting SEL (via the *SchoolKit*) has the power to transform low-performing schools and improve their students' academic performance. Implemented in 28 Chicago

Public Schools, this is the most ambitious application and study of systemic SEL.

Conclusion

For more than 2 decades, CASEL has led the way in the promotion of evidence-based social and emotional learning from preschool to high school. Through research, practice, and policy, CASEL collaborates to ensure all students become knowledgeable, responsible, caring, and contributing members of society. In the coming decade, as national attention turns toward the quality of early childhood education, CASEL will continue to call for the promotion of SEL programs and policies for our youngest learners while emphasizing the importance of grounding this work in a strong research base.

*Katherine M. Zinsser and
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See also Emotional Development; Psychosocial Theory; Social Skills and School Success; Social Skills Assessments; Social-Emotional Development

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Websites

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COMER SCHOOLS

The Yale Child Study Center School Development Program (SDP) is commonly called the Comer SDP after founder James P. Comer. It grew out of collaboration between the New Haven Public Schools and the Yale Child Study Center. It was initiated in two pilot elementary schools in New Haven, Connecticut, in 1968. The intervention research model created has been used in about 1,000 schools nationally and internationally. It is probably the longest running school intervention approach in the country and is the first to demonstrate and codify a successful school improvement approach among largely less privileged African American students. It has also been effective with mainstream children from all racial and socioeconomic groups.

In 1969 the two pilot schools were 32nd and 33rd in achievement among 33 schools; had the worst student and staff attendance; and had continuous, sometimes serious behavior problems. One pilot was closed and replaced with a similar school. In 1983, with no significant change in the student or community populations, the two schools were 3rd and 4th in academic achievement, were best in student and staff attendance in the city, and had no serious behavior problems.

The child development centered process change model that grew out of the pilot work was successfully field tested in nine schools. SDP staff learned that buy-in of change was more likely when a local person or group facilitated the change process. SDP staff created a trainer or (facilitator) program that made this possible. This made widespread dissemination possible.

This entry discusses the origins of the SDP, including experiences in Comer's background that led to his interest in behavior and a holistic approach to education. It then discusses the development of the SDP model and how it was disseminated to other schools. Finally, it discusses the implications of the program for schools and for education policy.

Concept Origins and Insights

Comer had planned to become a general practitioner of medicine, but while doing an internship in his hometown of East Chicago, Indiana, he noted that three classmates dating back to kindergarten were on a downhill course in life. Eventually, one would have a life-long struggle with mental illness, another died early from alcoholism, and the third served a long prison term. These conditions adversely affected their children, the community, and the society. Meanwhile, Comer and his siblings collectively earned 13 college degrees, had rewarding family and professional lives, and contributed to community service.

Comer and his classmates had attended the same racially integrated school with classmates from across the full socioeconomic spectrum. Their parents had similar backgrounds: poorly educated (Comer's mother was nearly illiterate) African American immigrants from the rural South who worked as domestics, steel mill laborers, and custodians. All the parents appeared to be caring, able people. What contributed most to the different outcomes of their children?

Comer determined that the critical differences were his parents' commitment to education for their five children; the ability to promote their personal development with low, but just enough, income to support their family; and participation in a church culture and network that provided the social, psychological, and emotional skills and support necessary for family stability. An important and often overlooked factor was parental access to mainstream social capital.

During the first 12 years of Comer's parents' marriage, before he was born as their first child, his mother worked as a domestic for several of the

most affluent and socially well connected families in their town. This provided opportunities to experience mainstream functioning uncommon to most poor families and children and, later on, jobs that supported their higher education. Their church culture enabled their family to participate in leadership roles that provided a sense of ownership and unquestioned belonging within an institution important to them and respected in the mainstream society. There was considerable overlap between their church-centered community network culture and that of the school. The school is a central mainstream institution. Success in church and school greatly increased their chances for success in life.

Comer began to position himself to better understand human and societal behavior. His journey to understanding began with volunteer work with a group of mothers with small children who were disqualified from welfare support for violation of onerous rules. The ill effects on those parents, the children, schools, and the potential impact on the society led him to thoughts about prevention—through child and adult psychiatry knowledge and skills, particularly child and adolescent development; public health ecology; and a holistic approach to understanding and addressing individual and systemic problems.

Method and Model

Shortly after Comer finished his preparation in child and adolescent psychiatry at the Yale University Child Study Center in 1967, he was asked to lead the center's school program. He and his team decided not to impose an intervention model on the two pilot schools but to participate in the ongoing school process, learn, and, with parents and school staff, co-construct an effective approach to research and intervention. They were guided by what they determined was needed to address the challenges within the school setting. They also decided against trying to racially integrate these largely African American pilot schools. Comer's own success in racially integrated schools while students of similar background and ability were not successful suggested that the students needed vibrant school environments that provided

them with experiences that promoted the kind of development needed to be successful in school more than proximity to White students.

Because of start-up problems one school was immediately highly dysfunctional, the other only slightly better. High hopes among parents, staff, and students turned to initial chaos in one year, followed by modest recovery but continued disappointment, frustration, anger, conflict, difficult behavior, and continued low academic performance. This strengthened the focus of the school program's creators on the power of environment. The idea behind the SDP model is that desired child development and learning are inextricably linked and interactive and can be promoted by mature adults in a reasonably well functioning school environment. The SDP model flowed from the organic creation of structures and processes designed to create these necessary conditions.

Even when school improvement is mandated, it can only take place when key and most influential, and when all participants buy in to an organic—self-change from within—process. SDP gradually moved to this state through the school-based creation of nine nonnegotiable elements that are at the core of its work today. These nine elements consist of three guidelines, three teams, and three operations. All of the elements emerged from problem situations that became apparent during practice; they were not imposed.

Guidelines

The three guidelines are no-fault problem solving, consensus decision making, and collaboration. As the participants work to live by these guidelines, a relationship culture gradually emerges that allows all involved to begin to address the obstacles to success. We identified two underlying problems—first, student experiences that did not prepare them for academic learning and needed behavior; second, educator preparation and practice that did not adequately prepare them to integrate development and academic learning in a way that supported adequate student development and learning and did not join home and community in the task of supporting student development.

Teams

The three teams—school planning and management (SPMT), parents (PT), and school-staff-support (SSST)—enable all the participants in a system of disorganized, inefficient, harmfully redundant moving parts to interact in a synchronous manner.

The SPMT is the engine of the process, is representative of the school stakeholders, and works with the principal, through direct action and delegation, to manage all the operations and activities in the school. The representative stakeholders intentionally involve colleagues. In this way everybody has an avenue for self-expression and problem solving, a sense of ownership of the outcomes and the challenges, and a sense of belonging. Representatives of the PT serve on the SPMT. And the PT carries out its own program, aligned with and in support of the SPMT and designed to address parent needs. The SSST is made up of the helping professionals, such as social workers, nurses, and others, in the school and community. In a coordinated way it addresses the needs of individual students or groups and works with all teams to help the school apply child and adolescent development principles to behavior, teaching, and learning growth opportunities.

Operations

The three operations are the comprehensive school plan, staff development, and assessment and modification. The SPMT establishes the comprehensive school plan and/or the academic and social goals of the school and delegates the work to this operational team or subcommittee. The latter is responsible for the alignment of curriculum, instruction, and assessment matters and for integrating development strategies into the academic program. Staff development is based primarily on what the educator staff identifies as needs through ongoing assessments and ad hoc group-established improvement needs. There can be development efforts for parents, support staff such as bus drivers, and others. Assessment and modification applies primarily to student academic and social

outcomes such as test scores, attendance, and behavior. It is formal and informal, periodic and ongoing.

These elements operating simultaneously and synchronously create a positive and supportive school culture and climate. This makes it possible for students to interact with the more mature adults in the classroom and school, and with the program of the school, and make the kind of attachment and bonding that took place in families and the community before school for many. Most importantly it makes attachment, bonding, support, and guidance available for students who did not experience environments (at home or in the community) that could prepare them for school.

The culture promotes student engagement and motivation. It allows the adults to help them grow along the critical developmental pathways necessary to be successful in school and in life—social-interactive, psychoemotional, moral-ethical, linguistic, cognitive, and executive functioning, and physical, which includes brain circuitry elaboration. Resultant student competence and confidence lead to better academic and behavior outcomes. This allows parents and staff to hold higher expectations and stretch to provide experiences that will provide even greater success.

Dissemination

After field testing indicated the SDP was effective in helping schools improve the academic and social performance of students, in 1990, program staff began to disseminate the model using a trainer of trainer approach that was created in-house. They worked with more than 650 schools in 26 states across the country for more than 3 years. They used three different facilitator approaches—a mental health and social service organization, university-based educators, and Child Study Center staff. The work was extended to several early childhood programs through a partnership and to middle and high schools in a few instances; the latter occurred through national faculty and regional training centers made up of staff trained by the Yale Child Study Center team.

Outcomes and Implications

Evaluations by SDP staff and outside evaluations suggest that two thirds of the schools using the model improved in academic achievement—one third remarkably, another third moderately. One third did not make gains. SDP research shows that academic gains were greatest in schools in which educator buy-in of its developmental approach was highest. In one of the few schools in which a racial comparison was possible, a 40-point achievement gap between Black and White students was closed over a 5-year period, and all students improved. Also, where assessments were done, students who attended SDP schools had higher self-concept and resilience scores than others. Other studies have shown beneficial outcomes for parents and educators.

In a study of 29 best known comprehensive school reform projects (projects designed to improve schools by implementing effective practices in every area) across the United States, the SDP was one of only three to demonstrate that implementation effects are relatively robust and the model can be expected to improve student test scores.

Challenge and Process

The challenge for educational policy makers is to institutionalize integrated development and learning knowledge and skills, and sustain the benefits in a way that improves the American education system on a large scale. Nearly half a century of SDP work with schools, educator preparatory programs, districts, parents, legislators, accreditation programs, and others suggests three prime drivers of underperformance in the American education system(s). First, educator preparation is not based on knowledge of child development and its integration with curriculum, instruction, and assessment. The second is that the critical stakeholders operate in silos, unable to effectively share and integrate potentially useful knowledge and skills. Third, much policy and practice requirements flow from the top-down rather than from the service delivery level and/or bottom-up.

An arrangement is needed that would allow front-line education service delivery needs and findings (the needs of students and families and the educators serving them) to inform district, state and regional, and national practice leaders and policy makers. This would allow high-level policy to better support front-line practice. This kind of change will require a process in which place—a district or community—begins to work with a university that prepares local educators and with a source of developmental knowledge, with state and national education authority involvement, attention, and support. This could reduce the sense of not being adequately prepared, powerlessness, and frustration at the education service delivery level that cause so much dissatisfaction and turnover, conditions that make good teaching and learning almost impossible.

Starting in 2015, the SDP has engaged in an intervention research approach designed to integrate development and learning in educator preparation, reduce silo effects, and promote bottom-up and top-down collaboration.

The goal of this intervention approach is to stop looking for magic bullets—a few rarely gifted educators, innovative new projects, and the like; or working top-down, create a model that can be brought to large scale—and to prepare community, parents, and educators at each school site to create schools and districts in which there are positive relationships; caring, responsible, and predictable adults in the lives of students; a sense of belonging in constructive groups engaged in challenging learning and activities; and an opportunity for students to gain competence and confidence and a sense of direction and life purpose. Academic learning is to take place as a part of a development-centered strategy that prepares students for life and that requires systems to change and work in ways necessary to make this possible.

James P. Comer

See also Child Development and Early Childhood

Education; Community Partnerships; Determinants of Child Development; Ethnic Differences and Families; Family Partnerships; Models; Parenting Support and Education; Poverty Effects

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COMMERCIALISM

Children have long been targets for advertisers, but beginning in the mid-1980s they became subject to an escalation of corporate marketing. This is when the Federal Communications Commission

deregulated children's television, and by act of Congress, the Federal Trade Commission (FTC) lost its ability to regulate most marketing to children. Now, on most issues the FTC can only make recommendations about how products are marketed and not marketed to children; it cannot regulate unless issues of actual bodily harm can be shown to be involved. Changes in government policy occurred with very little public discussion or debate, as discussed by Juliet Schor in *Born to Buy*.

Beyond the ads children see, even more marketing goes into linking the logos from popular children's media to specific products such as food packages, clothing, and daily life items such as lunchboxes featuring Disney princesses and highly successful toy lines such as those based on characters from the Teenage Mutant Ninja Turtles (TMNT) comics, TV series, and movies. On August 25, 2014, www.walmart.com had 736 TMNT products in the categories of toys, movies, video games, clothing, and home furnishings. It is important to note movie or TV show ratings have little to do with age ratings on the products being marketed and advertised in that medium. Although the rating for the 2014 TMNT movie is PG-13, the age recommendations for TMNT toys are as young as 1 year old and there are pajamas for 1-year-olds. Increasingly, even traditional and highly regarded toy lines, such as Legos and Play-Doh, have many media-linked product lines, for instance, TMNT Lego and Disney Princess Play-Doh kits.

This entry discusses the characteristics of children that make them vulnerable to marketing techniques and the relationship between commercialism and children's development, learning, and behavior. It then discusses the impact of commercialism on parenting and teaching and ways that parents and teachers can respond.

Young Children's Developmental Vulnerabilities

Children are vulnerable to the techniques used by marketers to sell them products because of how they think. They generally focus on the dramatic and concrete aspects of how things look and have a hard time looking beneath the surface at motivations,

intentions, and abstract ideas. Their thinking is more like a slide than a movie—that is, they tend to look at one factor or idea at a time, not multiple factors and the relationships between them. This makes it difficult for them to understand the logic underlying specific situations; for instance, distinguishing a program from an advertisement or the cause and effect within an ad.

Because of how they think, when young children see advertising or product-based media, they focus on the most salient, concrete aspects of what they see and do not put the information they see about the product into a meaningful context. This means that they have a hard time distinguishing between programs and commercials. If a product is different in one dramatic way from something they already have, they think it will be exciting and often want it. In addition, they have trouble understanding the intention that underlies commercials, that is, to sell them something.

There are very clear connections between the characteristics of young children's thinking and the strategies used by marketers. For instance, because young children cannot think about what lies underneath the surface, such as intentions for behavior, they are unlikely to realize that the children in an ad for a toy appear to be happy and having fun because they are actors being paid to look that way. Thus, the children watching it think the toy will make them happy too, so they want to buy it. When the product does not bring happiness or perform as the ad seems to promise, children can be left feeling disappointed, without the logical causal thinking ability needed to fully understand why. Thus, they learn little from the experience about consuming and instead quickly look at the next ad to figure out what to ask for next, even if it is different in only one way from what they had before.

Impacts Seen on Children, Parents, and Teachers

Commercialism is seen as a factor contributing to many of the development, learning, behavior, and health problems today's young children face. Commercialism geared toward children also can have an impact on parents and teachers.

Play

Some research has shown changes in how children play as a result of the increase in toys that are linked to the media. These media-linked toys, which are huge moneymakers for the media and toy industries, teach children that when they play, they should use these highly structured toys to *imitate* the characters and try to replicate what they see on screens, not create their own unique, imaginative play. In the case of TMNTs, this means having the toy characters fight with each other, and little else. When children are merely imitating what they have seen on screens, with toys that keep them focused on that imitation, they are more likely to develop short attention spans, flit from thing to thing, and be at loose ends when they have free time or during “free play.”

The onslaught of marketing can also tell young children that they *need* to use the media-linked toys to *know how to play*, rather than use their own creativity and imagination to develop their own characters and scripts, problems and solutions, from their own direct experience. Jean Piaget’s work on children’s play taught us that following someone else’s script is imitation, *not* play. When children become dependent on toys such as those from the TMNT movie, they often have a hard time coming up with their own interesting and meaningful problems to work on and solve in their own unique ways, which is an essential contribution of play in helping to lay the foundation for learning, development, and well-being. Diane Levin and Nancy Carlsson-Paige first documented this phenomenon in their survey of several hundred teachers for their book, *The War Play Dilemma*. The book reported teachers’ concerns over young children’s endless running around, imitating the Ninja Turtles karate chops and hurting each other but rarely developing it further into meaningful play. It can seem as if much of today’s play is becoming remote-controlled by the media and marketing forces rather than children coming up with their own interesting problems to work on in their play and being resourceful and meaningfully engaged players in their own right. Levin discusses this issue in depth in *Beyond Remote-Controlled Childhood*,

based on years of working with teachers and parents to promote play, and refers to it as *problem-solving deficit disorder* (PSDD).

Gender Roles

Extremely wide gender divisions characterize marketing to children. Marketers exploit the fact that children are working to define their gender as girls or boys from a young age and that, because of how they think, they use concrete differences they can see between girls and boys to do so. Violence in media, toys, and advertising is used to market to boys; that is, boys have to be tough, strong, and ready to fight. The original model used for marketing whole lines of products to children linked to violent media was the 1977 *Star Wars* movie, which predates deregulation of television by a few years. It was the first movie to have toys that were highly realistic replicas of almost everything children saw on the screen. Marketing products to children through films was not regulated the way television marketing was at the time.

After *Star Wars* and the deregulation of television in the early 1980s, using violent themes in movies and television programs became a common practice for marketing products to boys through violence. *Teenage Mutant Ninja Turtles* and then *Mighty Morphin Power Rangers* followed, each next success having more violence and more products. At the same time, many teachers voiced concerns about the increased levels of violent play they saw in their classrooms as boys imitated the characters they saw on screens, which Levin and Carlsson-Paige discuss in their book about war play. Popular new versions of these successful movies and product lines continue to resurface today, with huge success. For instance, on August 31, 2014, after the release of the most recent *Star Wars* movie, Walmart had 1,675 *Star Wars* products on its website. This is happening despite the fact that already in 2000, the American Academy of Pediatrics had concluded that media violence can have harmful effects on children’s attitudes and behavior.

Appearance, sexiness, and the color pink are used in media to market to girls, so that they will look appealing to boys and try to be prettier than

other girls, wanting to buy products to make them look pretty. Although there have been sexualized female characters in many of the popular violent media packages, the most successful sexualized themes have been aimed directly at girls. And probably no line of products has been more successful at this kind of marketing to young girls—being pretty and sexy in order to capture your prince—than the Disney Princess line. On August 31, 2014, Walmart had 1,223 Disney Princess products on its website. Peggy Orenstein discusses her struggles to deal with this issue with her own daughter in *Cinderella Ate My Daughter*. Levin and Jean Kilbourne discuss in *So Sexy So Soon* how detrimental the marketing of sexualized behavior and appearance can be on girls, including in their relationships with boys, from the early years through adolescence. In 2007, the American Psychological Association voiced concern about the impact of early sexualization on mental health and healthy sexual development.

There are always new products on the market that are a little different than what came before; this is enough for young children, because of how they think, to decide they need to have those products to be successful girls or boys. There is very little overlap between what is marketed to girls and boys—few activities or products they can share—so that even their bicycles need to be blue or pink.

Relationships

One of the tasks of childhood is learning how to have caring connected relationships, at least in part through having give-and-take interactions with others. Because how one looks (for girls), how tough one is (for boys), and the objects one owns have become more and more important, children have begun to treat themselves and others more and more like *objects*. They learn to judge themselves and others by how they meet the tough guy and sexy girl stereotypes—looking right, acting right, and having the right objects. Levin has referred to the behavior resulting from this objectification of self and others as *compassion deficit disorder* (CDD)—that is, children not developing

the caring, connected, give-and-take relationships at the rate that they should, and being more likely to bully and tease each other than in the past. For instance, reports of rising levels of bullying and teasing in schools at younger ages, in the years since the escalation of media and media marketing to children, have led to a growing number of books and resources on bullying for children, parents, and teachers, including items on the websites of the U.S. Department of Education and the American Academy of Pediatrics.

Obesity

According to the Centers for Disease Control and Prevention, levels of childhood obesity in the United States have more than doubled since 1980. This time span coincides almost exactly with the number of years since deregulation, when marketing fast food to children began to rapidly increase and continues to do so today. In fact, by 2012, the fast food industry spent \$4.6 billion to advertise mostly unhealthy products, and children and teens were the key audiences for that advertising (Harris et al., 2013).

Parenting

Commercialism geared toward children often targets or influences their parents. In her book *Consuming Kids*, Susan Linn discusses what she calls “the nag factor,” marketing strategies that are designed to get children to ask parents over and over for certain products. Defenders of the marketing industry say that parents could say “no” and not buy what they do not think is appropriate for their children. But, there are many reasons why this cannot solve the problem, including that there are too many things for parents to say “no” to, children can still be exposed elsewhere, and, when parents will not buy something, children learn to ask grandparents or friends to buy them as birthday presents.

Finally, there are marketing strategies that manipulate parents into thinking they are disadvantaging their child if they do not buy a toy that promises to teach some “important” basic skill,

even if there is no research to support the claim. For more than 15 years, the advocacy organization Campaign for a Commercial-Free Childhood has worked to expose the novel and potentially harmful approaches the marketing industry continues to develop to sell products to children and has even successfully filed complaints with the FTC, for instance, against false advertising claims about the educational benefits to children of Baby Einstein products.

Teaching

Children learn best when they are interested in what is being taught. Today, there is often a chasm between what teachers are trying to teach and what children are interested in learning. Children's deep interests are increasingly connected to the values and messages of commercial culture with its heavy emphasis on consumption, appearance, violence, sexuality, and celebrity. PSDD can make teaching harder by reducing children's interest in finding and solving problems in their own unique ways, which is essential for meaningful engagement in the learning process. PSDD can also threaten children's belief in their own ability to master the skills and concepts schools teach.

Responses to Commercialism

More research is needed to determine the precise impacts of commercialism on young children, and many organizations have called for increased restrictions on marketing directed toward children. But in the absence of stricter regulation, those who work with parents can help them create rules and routines about media use and setting their own limits on what is purchased, when, and how.

Parents and those who work with children can help children find interesting problems to work on in their play, develop problem-solving skills, and make sure they have long periods of uninterrupted time for play at home and school. They can help them find meaningful content to bring to their play and interesting problems to work on solving in their play, as well as learn to use open-ended

materials such as Play-Doh and blocks. They can counteract the gender stereotypes presented in commercial culture by helping children expand their concepts of what they can do as boys and girls and develop a broad range of interests, skills, and behaviors. Finally, they can help children develop empathy and caring relationships by establishing safe channels of communication for children to talk to them without fear of being embarrassed, ridiculed, or punished and by helping them learn positive ways to solve problems and conflicts.

Diane E. Levin

See also Aggression; Child-Initiated Play; Gender Roles; Media Influences on Play; Obesity Prevention; Sexuality Development; Technology and Play; Technology in Early Childhood Education

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Teachers Resisting Unhealthy Children's Entertainment: <http://www.truceteachers.org>

COMMON CORE STATE STANDARDS

The Common Core State Standards (CCSS) are educational goals for Grades K–12 in the English language arts (ELA) and mathematics. The standards are a result of a collaboration of several U.S. states. They were written under the auspices of the National Governors Association and the Council of Chief State School Officers with the financial support of the Bill and Melinda Gates Foundation. More than 40 states have adopted CCSS as their educational standards.

The ELA standards address reading, including foundational skills (e.g., phonological awareness, phonics, fluency); writing, speaking, and listening; and language (e.g., grammar, usage). The math standards include counting and cardinality, algebraic thinking, numbers and operations (e.g., base ten, fractions), measurement and data, and geometry.

Rationale for the Standards

Since 1991, U.S. states have been required by federal law to establish educational standards for elementary and secondary schools and to evaluate student progress toward those standards. However, as the federal government began holding schools accountable for reaching their standards, many states lowered standards to ensure success.

The CCSS were written to guide states to higher outcomes. Proponents noted the relative educational success of other nations on international tests of student performance and that many U.S. students were not prepared for college and careers. Analyses show that the CCSS are more rigorous than past state standards.

In response to those concerns, 48 states participated in writing the CCSS (all but Alaska and

Texas). In 2010 and 2011, states adopted the standards through their usual approval processes. In all, 46 states adopted the standards (including Minnesota, which adopted the ELA, but not the math standards), but by 2014, Oklahoma, Indiana, and South Carolina subsequently dropped CCSS, and other states were considering similar action.

Controversies Over the Standards

Political opposition to the standards began to emerge in 2013. This led some states to reverse their adoptions, but dropping CCSS proved easier than replacing them. Indiana, for example, replaced CCSS with a nearly identical set of standards, and some other states have done no more than rename the standards.

Controversies have focused on several issues. Opponents claim that the standards represent a federal takeover of schools, despite the lack of federal involvement or financial support in the writing or adoption process. However, the federal government encouraged states to adopt CCSS through its \$4.4 billion Race to the Top grant competition, which called for states to submit reform plans that included improved standards and assessments. Critics have also blamed CCSS for unpopular testing policies, concerns stoked in part by the federally supported creation of new tests aligned to the CCSS. However, non-CCSS states also are required by federal law to test student performance.

What Makes CCSS Different

The CCSS differ from what they replaced both in how they were developed and with regard to the specific ELA and math skills being promoted. CCSS began with the development of college- and career-readiness standards for 12th graders; then standards for the earlier grades were extrapolated based on these final outcomes. Previous standards were usually written from kindergarten up without a consideration of the ultimate end points.

Also, these standards were written according to the “fewer, bigger, better” philosophy. That means they emphasize a greater focus on fewer topics. The CCSS do not provide a detailed list of

all possible skills and knowledge students might need to achieve the outcomes. Unlike past state standards, the CCSS are less a curriculum than a set of learning goals.

The math standards represent some important shifts from past practices. Not only do they encourage the teaching of fewer mathematical topics with a greater emphasis on the topics that are included, but these standards are more coherent within and across grade levels. Studies show that American math curricula are less coherent than those of countries with high performance on international math tests and that the CCSS standards are more coherent. The math standards aim to develop a deeper conceptual understanding of mathematical processes while maintaining an emphasis on fluent calculations.

The ELA standards also include many new features. Instead of emphasizing reading skills alone, they require that students be taught to read texts of particular levels of difficulty at each grade in Grades 2 through 12. CCSS place a greater emphasis on informational text, as opposed to literary texts; students are to spend equal amounts of time reading such texts. The standards focus on argument in reading, writing, and oral language. Argument requires a careful use of evidence and a consideration of counterarguments and alternative explanations. Students are also expected to spend more time writing about text, analyzing and synthesizing information, and on the use of digital resources in their reading, writing, and research.

As of 2015, some states were considering whether to continue using the CCSS. In addition, several states decided not to use the tests developed by the Partnership for Assessment of Readiness for College and Careers (PARCC) and Smarter Balanced Assessment Consortium, and these tests were undergoing revision as well. In spring 2015, students in 11 states and the District of Columbia took PARCC exams, while 18 states participated in the Smarter Balanced test.

Timothy Shanahan

See also Approaches to Early Mathematics Instruction; Policy and Early Childhood Education; Reading Standards; Standards-Based Curriculum and Assessment; State Policy Making

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COMMUNICATION DISABILITIES

Communication disabilities refer to a number of disorders that affect the processes of hearing, language, and/or speech production. Young children who experience communication disabilities may demonstrate a range of difficulties that impact their everyday functioning and participation in the classroom. This entry provides information about the various types of communication disabilities, their possible causes, and related disorders. It then describes a case example to explain the implications of communication disabilities for early learning and give examples of best practices for early intervention and the classroom.

Types and Causes of Communication Disabilities

Communication disabilities can be categorized into three broad types: speech, language, and hearing, all of which can be further subcategorized. This section explains each of these categories.

Speech Disabilities

Speech disorders are those that affect the articulation of speech sounds, fluency, or vocal quality.

Young children who experience these kinds of communication disabilities often have difficulty expressing themselves effectively and efficiently. Unintelligible speech can lead to barriers between communication partners including parents, peers, and teachers that may have adverse effects on a child's academic and social-emotional development. The following disorders, with variations in severity, fall under the broad category of speech disorders.

Speech Sound Disorders

The term *speech sound disorders* can be used to describe a wide array of different articulation (form of speech sounds) and phonological disorders (function of speech sounds). The term *articulation disorder* is typically used to describe difficulties producing speech sounds as a result of a structural malformation (e.g., cleft palate) or motoric impairment (e.g., dysarthria). A child with an articulation disorder may substitute, add, or change sounds resulting in unintelligible speech. Many young children make sound substitutions, particularly for challenging sounds, such as an “r” sound. In this instance, a child may substitute a “w” sound for the “r” sound (e.g., “wing” for “ring”). Speech errors are part of typical development; however, if errors persist beyond the expected age, the child may have an articulation error.

Specific disorders that are included under the umbrella term of articulation disorders include the following:

Childhood apraxia of speech: a motor speech disorder that impacts the planning and coordination of muscle movement needed for speech production and may be caused by circumstances such as muscle weakness or paralysis

Dysarthria: a motor speech disorder resulting from weak, paralyzed, or poorly controlled muscles caused by damage to the brain, damage to the nerves, or neuromuscular disease

Orofacial myofunctional disorder: a speech sound disorder resulting from an exaggerated protrusion of the tongue between the upper and lower teeth during speech and swallowing

A phonological disorder is typically used to describe erroneous sound patterns that suggest a weakness in the child's underlying phonological system, which is comprised of the sound inventory and rules for a particular language. A child with a phonological disorder may consistently produce an entire class of sounds incorrectly. For instance, sounds produced in the back of the mouth (e.g., "k" and "g") may instead be produced in the front of the mouth (e.g., "t" and "d"). This is known as a phonological process and is common in typical speech development but is of concern if it persists past a certain age.

Many speech sound disorders occur from unknown causes that affect a child's learning of the correct production of sounds or phonological rules. In other cases, the cause is known, such as when a child may have a structural malformation or a sensory-based condition, such as hearing loss. Speech sound disorders may also be secondary to other disabilities such as a genetic syndrome (e.g., Down syndrome), neurodevelopmental disorders (e.g., autism), or neurological disorders (e.g., cerebral palsy).

Fluency

Fluency refers to the rate, smoothness, flow, and effort of speech. Disfluent speech, such as pauses, word interjections, and whole-word and phrase repetitions are typical of all speakers, including young children. Disfluent speech becomes a concern when it is persistent and characterized by stutter-like disfluencies, including part-word or sound/syllable repetitions. These disfluencies may be paired with visible tension of the speech musculature and neck, avoidance behaviors, and anxiety. Childhood fluency disorders can appear in children as early as 2½ years of age, and the majority of children who stutter show symptoms before the age of 5. The causes of fluency disorders are not well known, but research has shown that factors may include genetics and coexisting motor speech disorders.

Voice

Voice refers to the sound produced by the larynx and involves pitch, loudness, and quality. A

voice disorder, also known as dysphonia, can significantly interfere with a child's communicative abilities. Childhood dysphonia is typically categorized as infectious, congenital, neoplastic, neurologic, inflammatory, and iatrogenic. Vocal nodules are one of most prevalent vocal pathologies among young children largely due to behaviors such as shouting, crying, and excessive volume. This inflammatory condition is defined as the swelling of the mid-membranous portions of the vocal folds, which disrupts the vibration of the vocal folds, resulting in hoarseness.

Language Disorders

Language disorders can be categorized into three types: receptive, expressive, or mixed. Each of these types of disorders can impact one or more of the following domains of language:

Phonology: the sound system of a language and the rules regarding the use of phonemes (i.e., speech sounds)

Morphology: the system that governs how morphemes (i.e., the smallest unit of meaning) are used in language to form words

Syntax: the system of rules for governing how words are combined to make sentences

Semantics: the system that governs the meaning of words in a language

Pragmatics: the system associated with the functional and social use of language

Receptive Language Disorder

A receptive language disorder impacts the way in which a child understands language. They may have difficulty following directions, identifying pictures or objects, answering questions, or following social cues during play or in the classroom.

Expressive Language Disorder

Children with an expressive language disorder may have trouble using gestures, putting words together, using pronouns, using correct verb tense, or

making requests or expressing their feelings. They may use shorter or less complex sentences than their peers and may use a limited vocabulary. In some cases, children with an expressive language disorder may depend on a specific set of phrases to communicate. When asked to retell a story or an event, they may have difficulty organizing the information or recalling words. In the classroom, they may have challenges initiating or formulating language efficiently to participate in conversations with peers. As young children develop, these impairments can have an impact on their written language abilities.

The cause of language disorders is often unknown; however, some language disorders are caused by premature birth, low birth weight, hearing loss, poor nutrition, or failure to thrive. Language disorders may also be secondary to other identified disorders, including autism, Down syndrome, fragile X syndrome, fetal alcohol spectrum disorder, and cerebral palsy.

Social Communication Disorders

Social communication refers to the behaviors associated with social interaction, social cognition, pragmatics (both verbal and nonverbal communication), and language processing. Social behaviors range in acceptance depending on sociocultural differences and individual variability, and rules governing interaction are dependent on both the context and communication partners. A social communication disorder may be present if a child is having persistent difficulty with effective communication, relationships, or academic success. A young child with a social communication disorder may also demonstrate issues with language acquisition and, later, written language development.

Hearing Disorders

Hearing disorders can be categorized into three categories: conductive hearing loss, sensorineural hearing loss, and mixed.

Conductive Hearing Impairment

A conductive hearing loss occurs when sound is not effectively conducted through the outer ear to

the middle ear, resulting in reduced sound level. Possible causes for a conductive hearing loss include ear infections (otitis media), fluid in the middle ear, allergies, impacted earwax, or a perforated eardrum. Typically, medical or surgical procedures can resolve a conductive hearing loss. Young children who experience a conductive hearing impairment are usually at risk of developing a communication disability if the duration of the hearing loss is extensive. For instance, prolonged, reoccurring ear infections may impact the development of a child's speech and language skills.

Sensorineural Hearing Loss

The most common kind of hearing loss is sensorineural, which occurs as a result of damage to the inner ear (cochlea) or cochlear nerve. Depending on the severity, the onset of the hearing loss, and intervention provided, young children may experience a range of speech and language impairments.

Children who experience hearing loss earlier in life will experience more serious effects in terms of speech and language development. These effects typically impact the development of vocabulary, sentence comprehension, and speech sound production. Thus, academic achievement and social-emotional development are often affected as a result. Typically, an interdisciplinary team of professionals develops an intervention program to address possible communication barriers.

Implications for Early Learning: A Case Example

The following case example is a composite of actual cases of children with communication disabilities. Molly is a spirited, inquisitive 4-year-old girl who enjoys playing with her older siblings and parents. At 2 years of age, Molly's parents noticed that she was still using gestures and single-word utterances to communicate her needs. She was highly frustrated and would tantrum quickly when others could not understand her requests. Although she understood many two-step directions, her expressive vocabulary was limited to 15 words, including "mama," "dada," and "baba" for

baby. As she approached 3 years of age, her parents were concerned that her vocabulary was still very limited. Additionally, Molly's articulation was still immature in form, as words such as "baba" were not evolving to more adult-like forms (e.g., "baby"). Molly received early intervention services that focused on her communication skills, and a great deal of progress was made in terms of Molly's expressive vocabulary and mean length of utterance.

As Molly progressed to preschool, she transitioned to an individualized education program (IEP), as she continued to qualify for speech and language services. Most notably, Molly's vocabulary was still underdeveloped and she had difficulty learning the correct verb tense. She would frequently have trouble with word retrieval, which led her to use generic terms such as "that thing" when describing an event. Although her intelligibility was improving, Molly continued to demonstrate speech sound errors that are typically resolved by preschool age, making it hard for her peers to understand her at times.

Through the IEP, Molly receives one-on-one services with a speech-language pathologist (SLP) to target her expressive language and speech sound production. The SLP also works with Molly's teacher to find ways to scaffold, or provide continuing guidance for, certain tasks in the classroom that are verbally demanding, such as story retelling or show and tell. Because many young children with a history of speech and language disorders are at risk of developing reading disorders, Molly's teacher and SLP work together to give Molly intensive instruction of phonological awareness, including letter names, letter-sound correspondence, and syllable segmentation and blending.

Interventions and Best Practices

Early Intervention

For Molly, early intervention was a critical piece to her progression. Early intervention has been shown to be an effective service for children from birth to 3 years of age. Some of the most effective

strategies of early intervention involve parental training and direct involvement. Early interventions may focus on the increase of language development, improvement of speech sound production, or social communication skills. Some children may be taught to use some sign language to bolster their language development. Children who present with more severe speech or language problems may be recommended for augmentative and alternative communication, such as picture communication boards or electronic devices.

Preschool and Beyond

Like most children with communication impairments, Molly's difficulties manifested differently over time as she matured and experienced new contexts. Although Molly has shown progress in her expressive language skills, it is likely that she will encounter new challenges, particularly in the classroom, as the curriculum becomes more demanding. Molly may face persistent struggles when writing becomes an academic focus, resulting in frustration related to sentence construction, grammar, and organization.

For children like Molly, the classroom can be a place where demands related to writing, reading, and oral communication can present barriers to learning and demonstrating knowledge. It is often the case that children with communication disabilities need both one-on-one services—to learn strategies to manage difficulties and practice skills intensively outside of the classroom—as well as well-designed classroom environments that minimize barriers. In some cases, the requirements of the classroom are fixed (e.g., standardized testing), but in many cases, there is great opportunity for flexibility. Take the case of Molly in the preschool classroom. If the goal of the lesson is to retell a story so that students learn story grammar (e.g., characters, sequence, resolution), then it is possible that students could show their retelling skills through other means beyond oral communication. Molly might draw pictures or choose images to create scenes that demonstrate her knowledge of the events. If in fact the goal is to retell a story *orally*, then Molly might first practice drawing or

using pictures before she attempts to retell the story orally so that she may first practice with the right support. The practice of designing appropriate options for classroom experiences is referred to as universal design for learning and serves as a framework for inclusive education.

Alyssa R. Boucher

See also Developmental Disabilities; Early Childhood Inclusion; Early Childhood Special Education; Early Intervention; Expressive Language; Identification of Special Needs; Language Development; Language Disabilities; Oral Language Development; Phonological Ability; Speech Development; Speech Development, Issues in; Universal Design for Learning

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COMMUNITY PARTNERSHIPS

There has been growing recognition of the importance of community partnerships, which are the planful joining together of various community, county, state, and federal groups and programs to best meet the needs of young children and their families. The return on financial investment in quality early care and education, according to well-known longitudinal research such as the famous HighScope studies, is high, with more than a dollar return on an early childhood investment of one dollar (Kirp, 2007). Sociologists have lamented the fact that social networks and connections in communities have dissipated in recent years, with young people of all ages receiving less investment and attention from adults. Efforts to build communities that can support children and families are “money in the bank,” building the social capital that makes a strong and productive society.

This entry discusses theories that relate to community partnerships, strategies for community partnerships, and types of entities that often participate in partnerships. It then describes some well-known examples of community partnerships.

Helpful Concepts

Community partnerships are most likely to make a wide-reaching and sustained impact when they are theory-driven; that is, they are derived from current concepts that are based on empirical research and other knowledge sources.

Ecological Systems

Perhaps the most important concept for designing community partnerships is Urie Bronfenbrenner’s famous and still highly relevant ecology of childhood, described in his 1977 article “Toward an Experimental Ecology of Human Ecology,” consisting of multiple levels of systems that all interact to affect and shape the lives of children and families. The *mesosystem* includes the interrelationships among the settings “containing” children (e.g., families, peers, school, church). The *exosystem* includes

the institutions of society, such as employment, mass media, government, transportation, housing, health, and the like.

The adequate presence of these infrastructures in the lives of families and children enables a “family to function as a child rearing system” (Bronfenbrenner, 1974, p. 55). It is the settings and institutions of the mesosystem and exosystem that show how crucial community partnerships are that not only work to ensure that these fundamental elements are present in the lives of young children but also provide focus and definition for community partnership building efforts. The partnerships work to ensure that these components are provided and that relationships among those providing them are harmonious.

To develop successful partnerships means building a coherent system for organizing, administering, and evaluating service at the multiple ecological levels that addresses the interactions among these levels. This perhaps is the greatest challenge to communities. Karen Ponder suggests that a centralized system at the state level is an optimal way of providing unified, goal-oriented, smoothly functioning partnerships.

Early Intervention

In general the term *early intervention* is associated with the practice of securing services for very young children with developmental delays or who are otherwise considered to be “at risk.” On the assumption that an intervention is a group of planned actions intended to alter the course of development in a positive way, it is put forth here as an important concept in community partnership building. Early intervention approaches are applicable not only to infants and toddlers but also to preschool children who are at risk because of poverty or some other deleterious condition or situation or who are essentially normal but for whom community resources can serve as a positive developmental influence over time.

Since the inception of early intervention programs in the 1960s, it has been found that those that were “comprehensive,” that is, that were broadly based and involved families, were linked

to successful outcomes such as greater school readiness. The contemporary notion of community partnerships that plan, assemble, coordinate, and deliver multiple services to young children and their families is a means of providing comprehensive services. In this way, community partnerships provide early intervention.

An important aspect of community partnerships is to be concerned with longitudinal connections so that children experiencing the benefits of an early childhood intervention can have them sustained by appropriate activities as they grow older, in line with the notion that as long as quality intervention continues in some form, early outcomes are more likely to be sustained (Bronfenbrenner, 1974).

Developmental Assets

The Developmental Assets approach is based on a large and continuing body of research by the Search Institute, a nonprofit research and training group focused on youth development. These strength-based assets name specific resources (external assets) that are provided by others (family, community, government) that enable young people to thrive, and positive developmental outcomes are expected as a result of the provision of these experiences. Used worldwide, this framework has been adopted by many communities to help guide child, youth, and family supports and services. Eight communities have been studied extensively to identify how communities choose to adopt the Developmental Assets and coalesce to design and implement the means to help the community’s children and youth attain the assets. The assets are comprehensive, easy to understand, and research-based and can serve an important function in providing a clear goal for community-building efforts that then become what Richard M. Lerner and Peter Benson call “asset-building communities.”

Strategies for Community Partnership Building

Any effort to design and deliver services is empowered if known strategies are employed for design,

implementation, and evaluation. Where community building is planful, it is more likely to be successful. Researchers have described several strategies to build effective community partnerships:

Sense Opportunities. Leaders and others need to be intentionally aware of opportunities and needs that can be met through community partnership building. Knowing trends in development and services, being aware of current and emergent social problems, checking out funding programs, and developing and maintaining communication networks all contribute to the impetus to form a community partnership.

Know the Territory. A crucial preliminary step of studying the community needs to take place. It is important to know the dynamics, socioeconomic situation, and the demographics of the area in which partnerships may be created and conducted. However, research on community development is not as extensive as that on the developmental psychology of the individual. One pioneering study of communities is the Project on Human Development in Chicago Neighborhoods (Earls & Buka, 2000). This study has identified ways of understanding the organization of communities and ways of measuring various community characteristics.

The point is made that community factors may play a stronger role than is usually thought. For older youth, but with relevant application for pre-schoolers, the Search Institute has studied strategies for community building extensively and emphasizes that understanding a community's social norms, relational patterns, and informal networks is essential for effective community building (Nakkula, Foster, Mannes, & Bolstrom, 2012).

Be Aware of Cultural Factors. A partnership effort can sink or swim depending on participants' sensitivity to cultural factors in both communities themselves and in the organizations planning to join together. Activities need to be conducted to identify both differences and commonalities in values. Commonalities can be used as entry points to building mutual understandings about differences and ways of addressing them. Transparency, open

communication, and mechanisms for seeking input from all constituencies are needed. The people who live in the community and will be served by the partnership must be involved and give input from the beginning.

Be Planful. Being planful means coming together and in general applying a planning or strategic planning model to the task of establishing a purpose or mission, goals, and objectives (specific outcomes), a rationale, target audience, activities, and initiatives designed to attain the goals. However, it is important to consider the time range of the plan and have the ability to adjust long-term strategic plans, because so much is unpredictable.

Get Started. "The best is the enemy of the good," a saying usually attributed to the French writer Voltaire, contains wisdom for those developing community partnerships. Although community partnership builders ideally have a vision and a plan, it is best to get started before the plan is perfect. There is a rationale for this based on dynamical systems theory, which says that once an action is taken, effects or reverberations are felt in the wider system of which it is a part. Feedback enables more informed guidance to be applied as the project moves along.

Decide on the Nature of the Partnership. There are different forms and structures for community partnerships. A coalition is akin to the concept of a community partnership; in essence it is an agreement among a group with a common interest or concern to join together. An initiative may focus more on addressing the needs of a heretofore unexamined area (i.e., taking action or showing initiative). A collaboration is a joining together to share the work on a project of mutual interest.

Identify and Agree on Desired Outcomes. The effort of forming community partnerships is relatively useless if there are not identifiable and positive outcomes for children. These outcomes should be based on respected theoretical and empirical knowledge of child development. Possible outcomes of partnerships might include, as suggested

by Ponder, more recognition by the public of the importance of young children as a resource, school readiness, higher levels and effective use of funding, and high-quality programs with a well-prepared professional workforce. The clear statement of the knowledge base of the outcomes also facilitates the design of effective evaluation strategies.

Build in an Evaluative Component. Proposals for programs and interventions often do not include a strong evaluation component, which can result in the failure to receive funding. It is important to provide a well-designed evaluation plan. Having carefully defined the desired outcomes and activities to attain them at the initiation of a partnership sets the course for an evaluative component that enables periodic assessment of the partnership and, at given time points, of progress toward attaining outcomes and what actions contributed to them. Such periodic examination can enable approaches to be altered if they are identified as not being effective. Confirmatory program evaluation (Reynolds, 2005) is a sophisticated method in which the explicit theory of the program stated prior to its implementation is examined to provide greater evidence of what specific interventions in a program account for attaining the outcomes.

Common Areas for Partnership Development

Given that the combinatory potentials for partnerships are almost infinite, it is helpful to know some of the areas in which partnerships have already been forged. A community partnership can be between only two entities, for example, a preschool and museum, or it can embrace programs and agencies that address multiple levels of needs. Entities that can be involved in these partnerships include

- educational institutions (e.g., schools, care centers);
- religious institutions (e.g., churches, synagogues, mosques);
- recreational facilities (e.g., parks, playgrounds, YMCAs and YWCAs);
- neighborhood organizations (e.g., community and neighborhood centers);
- cultural organizations (e.g., museums and organizations focusing on art, music, and drama);
- health organizations (e.g., hospitals, clinics);
- law enforcement (e.g., police, legal organizations);
- housing groups (e.g., public housing projects, apartment complexes);
- mental health organizations (e.g., treatment centers, special needs programs);
- child welfare organizations (e.g., social service agencies);
- funders (e.g., foundations, financial institutions, governmental grant programs [several community organizations may collaborate in applying for funding]);
- programs serving different age or category groups (e.g., a senior center for intergenerational activities, a camp for special needs children); and
- advocacy groups (e.g., organizations that advocate for improvements in public safety or activities for children).

Some Exemplary Partnerships

Some community partnerships have become widely known and publicized for such characteristics as the scope and comprehensiveness of their design and the attainment of demonstrated positive outcomes. These include the following:

North Carolina's Plan for a Comprehensive Early Childhood System. Numerous agencies collaborated at the state level to generate this plan for an integrated, comprehensive early childhood system.

Early Head Start–Child Care Partnerships. This federal grant program was created in 2014 as part of President Obama's Early Learning Initiative to support local child care and family child care programs serving infants and toddlers of low-income families. The intent is to provide a full-day and year-round program that avoids the fragmentation that too often characterizes the out-of-home care experience of young children.

Chicago Preschoolers Ready to Learn! Initiative. This program of the Chicago Public Schools is designed to provide quality early childhood education. Funding is provided to early childhood programs by the public schools.

Promise Neighborhoods. This U.S. Department of Education program provides funding for nonprofit organizations to specifically focus on community building in low-income neighborhoods.

Karen VanderVen

See also Business Partnerships; Community–University Partnerships; Family Partnerships; Policy and Early Childhood Education; Program Evaluation

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Institute for Education Leadership: <http://iel.org/home>
University of Kansas Community Tool Box: <http://ctb.ku.edu>

COMMUNITY SCHOOLS

A community school—sometimes referred to as a full-service school—is a school that strives to address the needs of the “whole child” (e.g., intellectual, psychological, physical, and emotional development) by situating itself within a network of partnerships to offer a complete range of wrap-around support services. The Coalition for Community Schools, a national alliance of organizations and schools engaging in this work, defines a community school as “both a place and a set of partnerships between the school and other community resources.” Each community school partnership is a network of school faculty and staff,

parents, and organizations within the community, working together to assess and respond to the various needs of the school's students through social services, physical and mental health services, extended-day educational services, and adult education programs.

Historically, the notion that schools should be able to respond to a broad range of student needs has existed for over a century with its early roots tied to the reforms championed by Jane Addams and John Dewey. However, the strategic approach most often understood today is the community school approach begun in the early 1990s with several initiatives across the United States to develop community schools within high-poverty neighborhoods. The impetus behind this more recent resurgence is an attempt to ameliorate the effects of poverty through a wide range of support services going well beyond the classroom. The rationale of this approach is that the social problems generally associated with poverty (e.g., poor health, unstable housing, and inadequate preparation for school) stand as a barrier to students' academic success and limit the ability of schools to play a role in breaking the cycle of poverty.

Current theories of community schools posit that schools and their community partners can mitigate the relationship between poverty and student achievement indirectly by addressing the deleterious effects of poverty in those students' lives. Community schools aim to achieve these goals by building mutually beneficial and supportive relationships across schools, community organizations, and families to bring together community partners that can provide access to needed supports.

The Community School Approach

There is not just one model for what could be described as a community school. This diversity is intentional and can be attributed to the needs of the community that each school serves and the nature of the founding partnership that supports the school. Although there are many different approaches to the formation of community schools, all strive to place the school and its students at the center of a network of support. Some community

schools are born out of school or local community initiatives to improve the school(s). Others are created when a community-based organization decides to marry its services with a school to offer a variety of on-site support services. Other community schools are developed through university–community partnership networks in which a large established university takes on the responsibility of improving schooling and community. A community school can be created as a new school but is more often created from a preexisting traditional school (occasionally as part of a turnaround strategy) in an effort to address unmet student needs and improve academic outcomes.

Regardless of their structure, community schools tend to share three aims: (1) to provide rigorous, quality instruction; (2) to offer a comprehensive array of supportive services to children and their families; and (3) to build lasting relationships across schools, families, and communities. Most community schools also have a dedicated staff member in place to oversee the day-to-day operations of the school. Usually this person is a licensed social worker who works very closely with the school's principal to ensure that the social services, physical and mental health services, and extended learning activities are well integrated into the school's core instructional and administrative structure.

Despite the generally agreed upon need for schools of teacher education to provide formal support for preservice teachers around the social, cultural, and linguistic needs of their students, most schools of education offer inadequate preparation for teachers to understand and respond to the needs of their students from a strengths-based approach. Many community schools offer their staff professional development on how to engage families and communities and draw on their strengths.

In addition to supporting and educating teachers, successful community schools continually work to engage and educate families in the school's day-to-day work and decision-making processes. Parents are invited to visit regularly and, if they have the time, volunteer in schools. The schools also respond to the needs of the parents by offering classes such as adult education for high school

equivalency diplomas, English for speakers of other languages, and financial literacy.

Of course, community school partnerships fall across a broad spectrum of development from loose systems of informal support that aim to encourage improved student learning to highly formalized and codified community schools with a wide range of community supports designed to undergird student learning by providing support to students and their families. An established, well-funded community school might offer all possible supports and services at a high level of fidelity while a school just adopting a community school approach might only be able to offer a few services and have to rely more heavily on volunteers.

How Community Schools Work to Attenuate the Impacts of Poverty

In addition to the financial costs that work against families living in poverty who are striving to support children along their educational path, children from poor families are also disadvantaged by what educational economists term *opportunity costs*. Better educated, wealthier parents are more able to offer their children myriad opportunities to succeed in life than less educated, poor parents. Some of these opportunities are easily monetized, such as access to better health care, a stable housing situation, and educational and extracurricular activities outside of school. Other opportunities are more difficult to value with a dollar amount, including access to more academic language and discourse at home, examples of family members and friends who have achieved high levels of education, and complex social networks that offer expertise in a wide range of fields. Simply because of the life they were born into, poor kids are often less prepared for success in school and their later careers. Research finds that youth from low-income backgrounds suffer these opportunity costs and generally achieve at lower levels than their more advantaged peers.

Community school partnerships aim to reconcile the relationship between socioeconomic status and academic achievement by providing a full complement of supportive services that extend well beyond the regular school day schedule. To

accommodate these services, most community schools are open from early in the morning until late in the evening and on weekends as well.

Research tells us that people from lower income backgrounds are more likely to experience health challenges, including chronic diseases such as diabetes and asthma, poor nutrition, and lack of access to quality health care. To address these difficulties, some schools are able to situate medical and mental health offices within their school buildings. Other community schools build relationships with medical centers and arrange health, dental, and vision screenings at the school for children and their families when possible. Additionally, many community schools offer nutrition classes for parents and children to introduce healthy and affordable meal options that they can prepare at home.

The Importance of Early Intervention

Researchers from disciplines such as developmental psychology, developmental-behavioral pediatric medicine, cognitive neuroscience, neonatology, and public health that carry out research on child brain development point to the importance of supporting children's development from birth, and even prenatally. Poor children are the most likely to miss out on these needed supports. Research tells us that by the time the typical child living in poverty starts school, he or she is already at a disadvantage as compared to his or her more affluent peers. Furthermore, these students are frequently at a high risk of eventually dropping out of school. For these reasons, many community school advocates argue that programs focused on elementary and preschool education can have the greatest interventional effect in helping to bridge the achievement gap and better engage students from low-income communities.

Research on traditional schooling shows that the achievement gap continues to grow after children have entered school. Community schools argue that one major cause of this is chronic absenteeism. Community schools have many procedures in place to improve student attendance. By tracking student attendance regularly and on an individual basis and engaging parents and partners in the solutions,

community school partnerships can be successful in improving and then maintaining regular attendance at school.

Another contributor to the achievement gap that community schools are well positioned to address is summer learning loss. A great deal of research has shown that over their summer vacation, all children lose academic knowledge and the losses are significantly larger for students from poor communities. By embracing models that keep their school open year-round with a host of programs to engage students over the summer, community schools work to ameliorate summer learning loss.

Financing the Community School Approach

Not surprisingly, maintaining a wide host of programs to support a community school can require a substantial monetary investment. Funding to support community schools comes in many forms. Most often community schools are public or charter schools. Because they are aiming to serve students in low-income communities, charging for services is not an option. Fortunately, several federal, state, and local funding streams support community school approaches. Additionally, many private foundations fund community school partnership work. The partnership approach offers a structure that offers stability against fluctuations in funding. More recent years have seen more cities investing in community school models. Any large-scale community school initiative requires a public commitment if it is to remain sustainable. A major goal for all community school partnerships, as their programs grow and mature, is to find sustainable funding approaches.

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See also Brain Development; Community Partnerships; Community–University Partnerships; Economic Status and Geographic Influences on Development and Learning; Family Partnerships; Framework of Six Types of Involvement; Social Class Effects on Development and Learning

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Websites

- Coalition for Community Schools: <http://www.communityschools.org/>
- National Center for Community Schools: <http://nationalcenterforcommunityschools.org/>

COMMUNITY–UNIVERSITY PARTNERSHIPS

It is well established that nonacademic barriers to learning, such as emotional issues, behavior challenges, living in poverty, and family problems, can impede a child's ability to be successful in school. Community–university partnerships offer new possibilities for building the capacity of early childhood education to more effectively meet the needs of today's young children by partnering

with faculty and students from across disciplines and capitalizing on the university's goals of civic engagement, interdisciplinary collaboration, applied research, and innovative opportunities for student internships. This entry first discusses what community–university partnerships entail, how these partnerships can address community issues, and the role of collaboration in supporting early childhood professionals and helping families. It then discusses how these partnerships can be developed, implemented, and evaluated, as well as ways they can be strengthened.

Overview

One of the most promising ways that early childhood education can more effectively address the needs of today's young children is to broaden and expand the provision of services using collaborative models. Such collaborative models focus on intraorganizational and interorganizational collaboration and offer an array of possibilities for building the capacity of early childhood education.

Among the array of possibilities collaborative models offer early childhood education is the provision of program-linked services (services provided by university faculty and/or student interns near a program and formally connected with the program), program-based services (services provided by university faculty and/or student interns at a program), or as part of a full-service community agency (integrated services with the agency as a hub). Such community–university partnerships build the capacity of early childhood education by partnering programs with university faculty and student interns from across disciplines (e.g., education, social work, nursing, psychology) to more effectively meet the needs of today's young children.

In part because of its long history of field experience as a central component of professional preparation, early childhood education has been actively involved at the interface of the university and the community for many years. Grounded in education and social principles, these partnerships develop within a civic engagement framework that

calls for the university to engage with issues that the early childhood community names as important and address them collaboratively through service to the community, applied research, and workforce development.

The Emerging Role of Collaborative Teams

Everyone in early childhood education needs the knowledge and skills to work with a range of colleagues through a team approach. Collaboration involves early childhood educators and other professionals sharing information, validating each other's roles, and providing input on which strategies promote positive outcomes for all children. Community–university partnerships can play a critical role in supporting early childhood professionals (e.g., teachers, social workers, nurses, psychologists), in developing the skills to modify and adjust how a team functions as a way to increase efficiency and effectiveness.

Effective collaboration among early childhood professionals is now considered critical for providing services to young children and their families. Although this collaboration may best be presented along a continuum, interdisciplinary collaboration integrates the knowledge and expertise of professionals as a way to reach a common goal through shared decision making and practice. To do so, however, each person must develop the dispositions, knowledge, and skills to collaborate. Yet, early childhood professionals need opportunities to engage in interactive tasks or activities that foster interdisciplinary collaboration. Greater attention is now being given to the potential role that community–university partnerships can play in strengthening this foundation for both preservice student interns and in-service early childhood professionals.

Developing and Implementing Community–University Partnerships

Broadening and expanding the provision of services through community–university partnerships

can take many different forms. However, all participants help develop shared goals and create a protocol to actualize them. For example, an early childhood program has a goal to expand its provision of academic, mental health, and health services. The early childhood program administrator approaches an early childhood faculty member from the local university. The faculty member has a goal to expand the provision of clinically rich, interdisciplinary fieldwork opportunities for early childhood education students. This faculty member then invites social work and nursing colleagues to join the collaborative process. Collectively, they develop a shared goal and a protocol to actualize it as the foundation for the community–university partnership.

A protocol for a referral process can help identify children of concern and obtain permission from families for further evaluation. For example, university student interns from across disciplines might be asked to conduct comprehensive screenings to assess a child's overall health and developmental status. Based on the results of these screenings and in collaboration with program staff, university interns working in interdisciplinary teams and under the supervision of faculty would then determine what, if any, academic, mental health, or health supports or services should be provided.

Depending on the disciplines engaged in a community partnership, university interns from a range of disciplines (e.g., education, social work, nursing, psychology) would begin providing supports and services using a center- and home-based service delivery model. For example, under the supervision of faculty and in collaboration with program staff, university education, social work, and nursing interns might provide a range of supports and services that include individual, small group, or whole group lessons and activities; individual and/or family counseling; and referrals and follow-up regarding issues such as inadequate vision and hearing. The community–university partnership would then hold regular team meetings to ensure a coordinated service delivery. It is also important for everyone involved in the community–university partnership to offer families

meaningful opportunities to become fully engaged in the collaborative process.

Evaluating a Community–University Partnership

In evaluating a community–university partnership, a formative program evaluation design, called *process evaluation*, with the intention of using information gathered to enhance the planning, implementation, and performance of the project can be very helpful. Process evaluations aid in overall improvement by identifying the strengths and weaknesses of a particular program through exploring, through surveys and interviews, the experiences of program administrators and/or staff, university faculty and/or interns, and service recipients.

Even though community–university partnerships can accomplish what may be otherwise impossible in early childhood programs, there can be barriers. These include a range of issues from different disciplinary and professional perspectives or different goals to scheduling concerns. Although one may think of logistical details as minor and ideology as major, research has shown that logistical issues (e.g., difficulties with scheduling, space constraints) must be addressed for community–university partnerships to succeed.

Research also suggests that the organizational culture of an early childhood program can also play a significant role in what supports and services are provided and whether or not the community–university partnership is maximized. Although individuals may enter into the partnership with a collaborative orientation, the experience can become very challenging as a result of confusion around each other's role, frustration with discipline-specific jargon, and differences of opinion in what should constitute a child referral. These challenges can be further exaggerated by what may be perceived as higher status of university faculty and student interns or when organizational structures within the university do not fully support collaboration. Some of the organizational structures within the university that may not fully support collaboration include tenure and promotion

requirements that emphasize sole authorship on publications and full-time equivalent guidelines for faculty teaching loads that create significant barriers to co-teaching.

Next Steps

Community–university partnerships in early childhood education are still in the very early stages of development. Although the information on developing, implementing, and evaluating community–university partnerships in early childhood education is limited, results do point to some interesting points to consider. First, the earlier in the collaborative process that a program and a university can become familiar with each other's roles and expectations, the less likely it is that organizational and communication issues will create barriers to achieving partnership goals. Second, when community–university partnerships are maximized, the links among program quality, staff support, and optimal child outcomes can be strengthened.

Conclusion

In recognition that no one profession can address the academic and nonacademic needs of today's young children, broadening and expanding the provision of services through community–university partnerships is becoming an integral part of early childhood education. Even though community–university partnerships have not yet found their way prominently into the national early childhood agenda, there is every indication that they are on the rise. We can expect to see an increasing number of universities partnering with their early childhood communities as they seek to expand clinically rich, interdisciplinary fieldwork opportunities for student interns, promote university engagement, and assist in addressing community needs.

Developing, implementing, and evaluating community–university partnerships enables early childhood educators to deepen their understandings of the benefits and challenges of addressing the increasingly complex needs of today's young children at

the systems, agency, and stakeholder levels. Community–university partnerships that expand the provision of services in early childhood education also offer new possibilities for supporting optimal outcomes for young children by facilitating efforts to maximize innovative collaborative practices, programs, and policies.

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See also Child Development Laboratory Schools; Community Partnerships; Community Schools; Early Childhood Teacher Education; Family Partnerships; Interdisciplinary Models; Transdisciplinary Collaboration

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COMPREHENSION

Comprehension is the act of meaning making. Comprehension emerges with other meaning-making abilities, such as the ability for language, writing, and image making. Reading comprehension is the act of meaning making with printed text. Readers comprehend text by constructing a meaning for the text. Reading comprehension—or meaning making—is the goal for reading printed texts.

Learning to comprehend what is read is a developmental process called “emergent comprehension” and can begin as soon as texts are present during a young child’s social interactions. Emergent comprehension is especially important for early childhood education because it describes how children construct meaning with text prior to conventional reading and provides educators and caregivers with a framework for designing developmentally appropriate education. This entry describes the phases of emergent comprehension, origins of the theory of “emergent comprehension,” and children’s unique contributions to emergent

comprehension. The entry also describes how changing texts and digital media are pushing researchers to reframe theories about young children's comprehension as well as controversies about young children's comprehension.

Phases of Emergent Comprehension

Emergent reading comprehension begins via caring, playful interactions between children, their caregivers, and texts. Through these early social interactions, children watch and listen to how others handle and respond to texts. During this early phase, children may not know how to decode text; however, they begin to understand that printed texts mean something to the people around them. Routine interactions with caregivers who share texts with children can support children's comprehension development.

Children listen to stories from storybooks, watch caregivers use texts to get information, view textual messages in their surroundings, and begin to anticipate meanings when they see texts. Eventually, with more interactions with caregivers and texts over time, children learn to seek meaning with (i.e., comprehend) texts.

Research on children's developing understanding of books demonstrates the benefits of routine experiences with books. By about 2 years of age, children can identify what a book is primarily about (i.e., the content of the book) and will sometimes use the book as an object or play prop to represent that content. For example, a book about butterflies might be used as a butterfly during play. By about 3 years of age, children point to (and sometimes call out words for) the images and print within a book. By about 3½ to 4 years of age, children mimic the sounds and cadence of adults' storybook reading and paraphrase the content of the text (sometimes even parroting an adult's reading word-for-word); however, children's words do not necessarily match the printed texts. Notably, these age ranges indicate approximate developmental phases, and age is not as important as the amount of exposure and social interactions children have with texts.

Similar developmental patterns have been shown as children interact with digital texts and media; they become increasingly attuned to and seek out messages and meanings and begin to mimic the ways that others around them read and respond. Phases for emergent comprehension are helpful for conceptualizing long-term patterns that extend from routine interactions as well as changes over time.

Theory Undergirding Emergent Comprehension

Emergent comprehension is based on a heuristic for reading comprehension developed by the RAND Reading Study Group in 2002. This heuristic suggested that meanings are constructed and are unique to each meaning-making transaction. The RAND heuristic demonstrated how meanings are uniquely constructed any time a reader (who has background knowledge, particular abilities, and other unique characteristics) comes to a text (with unique words, particular formats, and genre characteristics) within a reading activity (which sets a unique purpose for the reading). Because there are so many unique contributing factors, comprehension is necessarily a distinctive and individualized construction of meaning.

Likewise, emergent comprehension exists when a child attempts to make meaning with texts, even when those meanings are not conventional or socially acceptable. Researchers Caitlin McMunn Dooley and Mona Matthews revised the RAND heuristic to account for young children's emergent comprehension in 2009. They suggested that children, like more mature readers, construct meanings that are unique to each transaction between the text, the activity, and the child. However, they also suggested that a text is a symbol, and the activity (or purpose) of any reading event is set by way of the child's interaction with someone else. Therefore, the heuristic for "emergent comprehension" involves contributing factors from a child, a symbol, and social interactions.

Children's Unique Contributions to Emergent Comprehension

Children's comprehension is unique to their cognitive, social, and emotional developmental patterns. Children come to texts with child-like concepts about the world around them; thus, young children comprehend text differently from adults. They cannot be taught to comprehend using the same cognitive strategies as adult (or even older child) readers. They do not have similar understandings about the world as older readers. For example, a child may assume a literal meaning to a figurative phrase. Or a child may not yet have the cognitive ability to understand someone else's perspective. Although researchers do not know enough about all of children's cognitive, social, and emotional abilities that contribute to the uniqueness of emergent comprehension, several contributing factors have been noted as especially important: symbolic understandings, narrative understandings, and play.

Symbolic Understandings

Comprehension, or the construction of meaning from print, is a symbolic act. Children's understanding of symbols develops from infancy and continues to develop as they learn to comprehend texts. Print is a symbol system: Letters, words, and texts represent sounds and meanings. However, those constructed meanings will differ from reader to reader. Likewise, text types also carry symbolic meanings. For example, a legal contract has certain formatting, whereas a newspaper looks and feels very different. As children experience "reading"—whether through listening to a caregiver's storybook read-aloud, witnessing adults reading for information, or having any other social experience with text—they construct meanings by considering the text as a symbol.

Children learn to discern one type of text from another by looking at textual elements, formats, and holistic characteristics, often before they are able to decode print. For example, children can tell the difference between an informational book and a storybook before they are able to "read" the

books themselves. In this way, children construct symbolic meanings related to texts and text types.

Children come to symbolic meaning making by following a pattern of moving from indiscriminate meanings to more discriminate meanings with symbols. They may allow for more varied and general meanings for texts, but over time, and with experience with similar text types, they begin to converge on more socially acceptable meanings.

Children also use multiple modalities (e.g., image, gesture, sound, feel) to construct meanings with symbols. They rely on multiple modes for meaning making, and as they develop understandings they dynamically use additional modes to continue the construction of meaning. David Rapp and Paul van den Broek call this "dynamic text comprehension"—the act of a reader to use what is already known about a text to continue to build meaning.

Narrative Understandings

Perhaps because most research to date has been done with storybooks, much has been written about how children's narrative understandings contribute to their comprehension development. However, the mode of narration does not seem to matter; whether in the form of storybook read-alouds or in the form of oral story-telling, children who engage in stories with caregivers perform better on early assessments of comprehension. More important than the mode of the narrative is the process for adult-child interaction during engagements with narratives. Children who are given opportunities to discuss and question stories they hear or watch (via video) or see in storybooks are better at identifying narrative elements such as causality and sequence (e.g., the story's beginning, middle, and end).

Interactive Play

Children will sometimes demonstrate their comprehension of texts by simulating the use of those texts in their play. This is true for digital and paper texts. For instance, children might play with long paper lists as "receipts" when pretending to be at a store. Or they might pretend to read Internet sites

when pretending to choose a movie to go to with a friend. Several studies have shown how children haggle over meanings of texts during playful exchanges. They do not always agree on what texts mean, but they do seem to enjoy simulating meaningful engagements with texts. In this way, children are exploring what textual meanings are possible as well as what meanings are socially acceptable.

Changing Texts

As digital texts become more prevalent, researchers are growing aware of how children's experiences with texts are different now compared to 10 years ago. This is notable because children have not changed, and they do not perceive any change—a world with digital texts is all that they know. However, the research on comprehension needs to continue to evolve as texts evolve.

Some of the affordances of digital texts are particularly significant for comprehension. For example, the capacity for digital texts to engage readers in multiple modes simultaneously is somewhat new (a caveat: Picture books have always provided text and image simultaneously). Given that children use multiple modes to construct meaning, researchers are investigating how much is helpful (or hurtful) to young readers when it comes to constructing digital texts. Another difference that is prevalent in digital texts is the interactivity that is possible—even in the absence of physical presence. Texting, interactive websites, video conferencing, text messaging, and digital stories afford real-time interactivity. Children see adults use these texts. They mimic their use and sometimes may engage in text-based interactions themselves.

Controversies and Disagreements About Emergent Comprehension

There is some controversy over whether children can be considered as “comprehenders.” Until the early 2000s, many early literacy researchers believed that comprehension could ensue only after children mastered decoding. The National Reading Panel published a report in 2000 that suggested that comprehension instruction was especially important to

children in upper elementary grades but did not suggest instruction prior to decoding. Similarly, the National Early Literacy Panel report, published in 2008, reported that little to no research investigated comprehension among young children.

Perhaps the paucity of research on emergent comprehension is due to an overreliance to date on the “simple view of reading,” developed by researchers Phillip Gough and William Tunmer in 1986. In short, the simple view suggested that comprehension was the sum of a reader's oral language skill (sometimes aligned with “listening comprehension”) and ability to decode print. The simple view of reading negated the possibility of comprehension prior to decoding skill development.

More recently, several researchers are questioning the sequential assumption inherent to the simple view. Understandings that are helpful to comprehension, such as sequence, causal relationships, and inferring, can be developed through exposure to aural and visual texts prior to the development of decoding skills. The question of when comprehension begins and how to best support children's emergent comprehension is still being answered.

Caitlin McMunn Dooley

See also Early Childhood Education; Literacy; Oral Language Development; Play and Early Childhood Education; Read-Alouds; Reading; Vocabulary

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CONCEPTUAL FRAMEWORK FOR TEACHER PREPARATION PROGRAMS

Early childhood education (ECE) can have a profound effect on improving the lives of young children. However, too many children attend ECE programs that are mediocre at best. Increasingly, federal, state, and local policy makers have focused on developing and implementing professional development systems to prepare, train, and improve the early childhood workforce as a means of improving ECE quality. This entry examines the ways that a conceptual framework guides the structure and content of teacher preparation programs in order to help improve teachers' practices and student learning.

Main Features of a Conceptual Framework in ECE Teacher Preparation Programs

Clear Targets

Conceptual frameworks help guide the structure of teacher preparation programs by integrating and synthesizing the important lessons from the field and providing targets for professional development activities. The most effective frameworks are typically theoretically driven and empirically supported, and often they integrate key stakeholders' goals or a program's mission. With the increased economic, social, and linguistic diversity of children who attend ECE programs, conceptual frameworks also emphasize how teachers serve the individual needs of students from varying backgrounds.

Conceptual frameworks help provide a clear definition of what is expected of teachers and ensure a common language for educators, practitioners, and policy makers to talk about high-quality teaching. Teacher preparation programs are most effective when they apply conceptual frameworks that articulate the specific knowledge, skills, and processes needed to produce gains in student learning and positive social adjustment. Conceptual frameworks in ECE typically focus on both (a) content standards that provide guidelines for concrete skills or dispositions needed to teach content-focused domains (e.g., math and literacy) or basic pedagogical knowledge (e.g., understanding of child development) and (b) practice standards that highlight the processes by which teachers implement instructional practices in the actual classroom.

Aligned Professional Development Activities

Teacher preparation programs then provide activities that are directly aligned with the key skills, knowledge, and processes articulated in the conceptual framework. There are a number of ways to structure teacher preparation activities around these goals through preservice and/or in-service training programs. In particular, models in which expert coaches or veteran teachers provide constructive feedback using direct classroom observations help improve classroom quality and children's subsequent outcomes. Peer-to-peer observations also allow teachers to see other teaching practices and provide opportunities for critical reflection and feedback. Moreover, professional development programs often work toward helping teachers become leaders of their own professional development who continually seek knowledge about best practices, support each other and offer feedback, and reflect on their own teaching practices.

Monitoring and Tracking

A conceptual framework also provides a standard way of measuring teachers' strengths and weaknesses across teachers' target skills, knowledge, and practices to evaluate whether professional development activities are indeed improving

classroom quality and child outcomes. Monitoring and tracking can be used for accountability purposes as well as part of an iterative feedback loop to inform ongoing professional development efforts and refine the targets and activities of the teacher preparation programs.

Example of an ECE Professional Development Conceptual Framework

One example of a validated conceptual framework for understanding and improving teacher effectiveness is the teaching through interactions framework. The framework is based strongly in developmental theory on the importance of children's close-in environments as well as decades of empirical research on the types of exchanges between children and teachers that most strongly promote positive child development. The teaching through interactions framework organizes interactions into three broad domains: emotional support, classroom organization, and instructional support. A validated classroom observation tool, the Classroom Assessment Scoring System (CLASS), is used to systemically code the quality of teacher-child interactions in teachers' classrooms across the three domains.

Professional development activities, including coaching and coursework, are then directly tied to teachers' observed interactions in the classroom. For example, in one professional development program that applies the framework, coaches use the CLASS observation tool in teachers' classrooms to focus teachers' attention on the key interactions that best promote children's learning. Teachers' progress is monitored and tracked by coaches to provide interactive and ongoing feedback throughout the school year. Empirical evidence suggests that professional development activities using the teaching through interactions framework improve teacher practices and produce gains in children's academic and social skills.

Conclusion

A conceptual framework defines what teachers should know and do based on theory and evidence.

An aligned professional development program then provides activities that are directly related to the key competencies outlined by the conceptual framework and monitors and tracks teachers' progress over time. This type of teacher preparation and accountability system has the potential to be integrated into local, state, and federal programming and policy. Having a clearly articulated conceptual framework for ECE teacher preparation programs guides the organization and implementation of teacher preparation programs and helps ensure that the programs are effective in promoting young children's development.

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See also Classroom Assessment Scoring System; Early Childhood Education; Early Childhood Teacher Education; Preservice Teacher Preparation; Teacher Preparation Policy and Practice

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CONFLICT MANAGEMENT

A conflict is an expressed disagreement between individuals. Conflicts, and interactions around them, define much of human life, every moment of every day. The term *conflict management* refers to the process of making conflicts manageable so they can be resolved civilly and cooperatively by the parties involved.

Two related terms are *conflict mediation* and *conflict resolution*. Conflict mediation refers to the leadership provided by a third party that guides parties in conflict to resolve the conflict. Conflict resolution, for the sake of this discussion, refers to a formal process of conflict mediation that typically involves application of a specific system and sometimes includes institutional involvement, such as a formalized conflict mediation service. This entry first discusses the phases of conflict management and the skills children need to develop to manage conflict. It then discusses the role of the caring adult in helping young children with conflict management.

According to Susanne Wichert, learning to manage conflicts by young children occurs in three phases: (1) *high-level mediation*, during which a third party works as an active coach to calm the conflicted parties and lead the children through the mediation process; (2) *low-level mediation*, when

children have progressed in learning calming and mediation steps and, with a leader's facilitation, take on some dynamics of the mediation themselves; (3) *child negotiation*, during which at least one child in the conflict takes leadership in the calming and negotiation processes, and the children resolve the conflict on their own.

Developmental Dynamics

An accepted goal of caregivers in relation to social-emotional development is that young children gain a psychological foundation in the cluster of skills needed to resolve problems civilly. In reality, leaders continue to work on these high-level skills their entire lives:

- Impulse control, or calming one's self enough to approach the conflict civilly
- A willingness to join with the other in solving the problem
- Perspective taking—the ability to understand a situation as the other party perceives it
- Expression of thoughts and feelings in ways that are not hurting to the other
- Positive adaptation of past experience to productively address the present situation
- Developing communication abilities that, with an adult's assistance, allow participation in the conflict mediation process

The operation some brain psychologists use to describe the utilization of this skill cluster is *executive function*. Executive function seems to begin development at about age 3 and does not operate with full developmental maturity until a person is in his or her mid-20s. Preschool children are just beginning the brain development that makes possible the affective, cognitive, social, and language skills needed for conflict management. Because of nascent executive function and a lack of social experience, young children make mistakes in behavior relative to these skills, resulting in frequent conflicts that they cannot easily resolve on their own.

Young children's stress levels have direct and continuing impact on the development of executive

function. An unmanageable stress level, termed *toxic stress* by Jack P. Shonkoff and Andrew S. Garner, causes the child to perceive even everyday situations as threatening. Perceived threat causes amygdala-driven cortisol reactions in the brain that override developing executive function and trigger survival behavior that frequently includes aggression. Aggressive, self-defensive impulses escalate conflicts and make management efforts, both mediated by the leader and initiated by the child through executive function, difficult. A meta-analysis by Megan R. Gunnar, Adriana Herrera, and Camelia E. Hostinar concluded that children who fall into a cycle of *stress–conflict–aggression–leader discipline–continued stress* face significant long-term challenges in relation to conflict management ability and long-term mental health and social relations.

The same meta-analysis determined that sustained, secure relationships with adults are essential for children to gain the trust necessary to weather missteps in learning this complex skill cluster. Positive adult guidance, through secure primary attachments with family members and secure secondary attachments with early childhood professionals, is critical for the development of the conflict management skill cluster.

Modeling and Teaching Conflict Management

The caring adult's priority, both in terms of immediate situations and broader developmental dynamics, is to help the child keep stress at manageable levels, so that conflict management skills can be learned. When intervening in pronounced conflicts, a *first step* is to calm all parties down, beginning with the adult who is intervening.

A usual calming strategy is to acknowledge each child's upset feelings and use soothing words to de-escalate the conflict. When one or both children have lost emotional control, the adult guides them in a calming process that typically includes physical distancing from the place of conflict and enough time for the children to regain composure. Separation to a quiet spot is **not** "a time out," or removal as a consequence of something the child has done. Instead, moving the child away from the

conflict is effected so that the child can become calm and mediation can occur: It is a nonpunitive *cooling down time*. The caregiver may use soothing words, physical proximity to the child, or intentional distance, whatever works to assist the individual child to calm down. Some children may need more time than the teacher might typically allow in order to become calm. For the sake of the individual child, or for general classroom management reasons, the leader may conduct the remaining steps of mediation later in the day.

A *second step* is for the leader to mediate an agreement as to how each child saw the conflict. For this step to be successful, the leader needs to be firm, friendly, and impartial. The objective is not to establish who is right and who is wrong, but to guide each child to agree about how that child *and the other child* each viewed the matter in dispute.

A *third step* is to guide the children in brainstorming possible solutions to the dilemma. Depending on language development and abilities, the leader might nudge the children into suggesting solutions themselves, or offer solutions herself or himself.

A *fourth step* is to lead the children to agree to try a solution. The leader's objective during the fourth step is to facilitate the solution all have agreed to. Often reconciliation is a part of the solution. The leader does not force an apology, which might result in conflicted feelings, but asks the children how they can each help the other to feel better. If the mediation has been successful, most children will have ideas about this.

The *fifth step* is to monitor and follow up on the solution. In relation to the immediate situation, the leader observes the children's behaviors and provides positive feedback as to their efforts. She or he talks further with the children to teach future alternative responses that would prevent conflict-escalation and possible harm. The leader especially talks with either child who used aggression during the conflict about techniques for managing impulses and strong feelings—such as summoning a leader and/or leaving the situation.

Dan Gartrell

See also Aggression; Brain Development; Child Development and Early Childhood Education; Emotional Development; Executive Functioning; Guiding Behavior; Neuroscience and Early Education; Self-Regulation; Social Skills and School Success; Social-Emotional Competence

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CONGRUENCE

Congruence, in the most general sense, refers to a state of agreement, correspondence, or similarity. In many areas of psychological literature and research (e.g., vocational psychology, child temperament theory), the term *congruence* is sometimes used interchangeably with *fit* and typically refers to a match between individual characteristics or values and environmental demands, which is hypothesized to influence a wide variety of psychological phenomena, including satisfaction, adaptation, motivation, engagement, commitment, and personality consistency. The term *agreement* often is used interchangeably with *congruence*.

With regard to early childhood education, practitioners and researchers have focused on the construct of congruence as it relates to school–family relationships and collaboration and have adopted a definition of congruence as the continuity or common approach among home and school contexts. Using this definition, this entry discusses how congruence affects student outcomes, reviews research supporting the importance of school–family congruence, and discusses what can be done to facilitate higher levels of congruence.

Overview and Theoretical Background

Within educational research, the past several years have yielded a growing interest in the impact that families and schools have on student performance. Urie Bronfenbrenner's ecological systems theory has become one of the most commonly used lenses through which practitioners and researchers alike view and explore students and their development over time. Bronfenbrenner's theory specifies that children and adolescents develop within a set of interrelated, interacting environmental systems (e.g., home, school, community), all of which have the capacity to exert varying degrees of positive or negative influence over an individual.

However, while much of the educational literature rooted in systems theory has focused on protective factors embedded within *either* the home or school environments, researchers are increasingly

focusing on the potential positive influence to be exerted when home *and* school work in tandem. Furthermore, in contrast to simply focusing on developing relationships (i.e., connections between families and schools and the reciprocal interactions among them over time), researchers are instead urging schools and families to strive for cultivating *partnerships*. That is, schools and families should make every effort to form a specific type of relationship characterized by two-way communication, collaborative problem solving, shared decision making and goals, and joint responsibility and accountability, all with the focus of supporting students and families in order to optimize educational outcomes. Such partnerships are not only believed to be essential to promoting positive outcomes for students but have also been posited as protective factors for children at risk of academic failure.

An increase in educational research and practice initiatives related to the establishment and maintenance of effective school–family partnerships has brought about discussion of key concepts underlying and characterizing the partnership process; among the most cited of these concepts is congruence. Often stressed in discussions of the underlying principles of healthy and effective school–family partnerships are the importance of continuity across home and school in providing consistent learning opportunities, advocating similar structure and climate within the home and school, promoting like goals and common messages about the value of learning and education, offering comparable levels of support, and modeling consistent behaviors. In addition, it has been suggested that children are more likely to commit behaviorally and socially to certain contexts when they are receiving congruent messages about values, goals, expectations, and aspirations from both the school and family environments.

From an alternate perspective, there are also numerous dangers associated with *incongruence* in school–family relationships, as students within these systems often receive conflicting messages about the importance of learning. This, in turn, can lead to higher levels of risk for negative outcomes

for those students. Although all children and adolescents experience psychosocial pressures from the various contexts in which they learn and develop, those who experience discontinuity among home, school, and peer systems tend to have the most difficulty transitioning between different contexts and, thus, are at greatest risk for poor school performance or mental health concerns.

Supporting Research

Whereas numerous empirical investigations exist reporting significant correlations between parent involvement indicators (e.g., home–school communication, parental aspirations, participation in school activities) and student success, and demonstrating the positive influence of family components in interventions aimed at changing student learning and behavior, less research has been done investigating the influence of school–family partnerships and the interactions that characterize them. Among the investigations that have focused on these variables, increased support has been found for interventions that involve *active collaboration* between parents, students, and schools, compared to those that include only a family or school component. In addition, many have noted that a key feature found in the most successful interventions is that schools and families not only collaborate with one another but also treat each other *as equals*, exhibiting mutual respect and empowerment.

Research examining consultation approaches and their effect on student outcomes has yielded similar evidence for the utility of involving parents *and* teachers in the consultation process. For example, among the various parent consultation models, the conjoint behavioral consultation model, involving consultation with both parents and teachers rather than one or the other, enjoys the strongest support for producing significant school-related outcomes. In addition, several published reviews have found that consultation services involving families, educators, and school psychologists in joint problem solving not only are highly effective in improving students' academic, social, and

behavioral functioning but also have been rated as favorable by participants in the process.

As evidenced by these studies, the influence of and rationale for schools partnering with families is well established, and scholars are increasingly calling for a shift in research focus from the question of “why” establish these partnerships, to the more process-related questions of “how” and “what works.” The previously discussed research and theoretical literature establishes the theoretical necessity and importance of collaboration, interaction, and continuity in creating and maintaining effective school–family partnerships and improving student outcomes. However, limited empirical research has been done to explore the impact these or other similar characteristics actually have on student outcomes. The studies that have looked at student outcomes found generally positive effects (e.g., gains in academic achievement), for example, when home and school environments are congruent in terms of rule systems and perceptions of student ability. In addition, some found that congruence between school and family views on education was particularly important in terms of countering information from competing sources such as students’ peers or media. Furthermore, discontinuity between families and schools has been found to compromise parents’ and teachers’ overall effectiveness as socializing agents. In general, however, additional research is needed to investigate which specific aspects of school–family congruence contribute most to positive student outcomes.

It is important to note, however, that several challenges and limitations exist in attempting to research school–family partnerships. Most evident are the inconsistencies and methodological flaws that pervade this body of literature and greatly limit the conclusions that can be drawn. For example, many studies that have looked at the success of interventions involving students’ families in some way (e.g., home component, collaborative approach) have cited methodological weaknesses such as the use of outcome measures with insufficient reliability and validity; failure to isolate effects of specific components or report participant data and effect sizes; or a

general lack of replication studies, sufficient follow-up data, and between-group design studies. Furthermore, within this area of research it is difficult to establish the direction of influence from school–family collaboration to child outcomes. These limitations impede clarification of the precise process by which school–family partnerships contribute to improved student outcomes and therefore should be taken into account when considering the previously discussed empirical findings.

Implications and Future Directions for Researchers and Practitioners

The literature discussed earlier provides a handful of important implications for both practitioners and those conducting research in the area of early childhood education. First, it makes clear the necessity for a considerable shift in focus of those in the educational field, a shift from investigating and looking to maximize school *or* family influence individually, to increasing and capitalizing on the joint influence of the school–family partnership. Furthermore, with this shift in focus comes the increased initiative to foster congruence and continuity across home and school contexts.

Although more research is needed to ascertain the specific relationship between school–family congruence in various aspects of learning and development and child outcomes, it is clear that congruence is essential to the cultivation of effective partnerships between home and school contexts, as well as the promotion of healthy development. Moreover, findings supporting this concept hold even greater weight for families and educators of students at risk for academic failure and other poor outcomes, as it seems that adequate two-way communication, collaborative problem solving, and other practices thought to promote congruence between home and school can serve a protective role in such instances.

Thus, with the importance of congruence and continuity well established, practitioners and researchers alike are tasked with determining the most effective ways of encouraging congruence

between home and school contexts. Several strategies have been suggested for achieving this goal. For example, school personnel should be encouraged to proactively establish and maintain regular, productive, two-way communication with families that emphasizes shared accountability for student outcomes. Too often, teacher–parent communications are limited to reports about a student’s academic or behavioral failures, which leads to predominantly negative interactions between family members and school personnel. Instead, those who work with students should aim to communicate with families about those students’ successes as well as their struggles, sharing responsibility for both victories and shortcomings and encouraging collaborative problem solving when conflict arises. In addition, schools should increase initiatives to garner involvement of families and communities in the educational process. This may be done through various community outreach campaigns and activities, informing and educating community members about how they can become involved in their children’s schooling and encouraging them to do so.

Lastly, as discussed earlier, the need for additional research in the area of school–family congruence is clear. Specifically, future studies should endeavor to focus on congruence in different aspects of the school–family partnership, examine the effect congruence has on various student outcomes, and investigate different methods of establishing and maintaining congruence between home and school contexts. Research such as this will not only lead to a better understanding of this complex construct and its potential for positive impact in the lives of students but also help determine what can be done to facilitate congruence between home and school contexts. Only then will schools and families be able to most effectively work together to bring about student success.

Courtney Glueck

See also At-Risk Families; Early Childhood Education Systems; Family Engagement Models; Family Partnerships; Relationship Building; Resilience in Adversity; Transdisciplinary Collaboration

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CONSTRUCTIVISM

Constructivism is a philosophy and theory describing how knowledge is acquired. In this entry, constructivism is first described in general with respect to education at the elementary, middle school, high school, and college levels. It is then discussed with respect to early childhood education because early education has its own history, especially at the kindergarten and prekindergarten levels. The emphasis in Grades 1 through 3 is on the 3 Rs, but preschool education has a long tradition of “child development” with an emphasis on play.

Many definitions of constructivism have been proposed, but the following ideas can be found in all descriptions, according to James Pelech and Gail Pieper:

- People do not discover knowledge; they build it from within.
- People create knowledge by connecting new information to their previous knowledge.
- Learning involves active restructuring of one’s thinking.
- People create new knowledge by using personal experiences and social interaction.

The term *constructivism* was first used in 1977 by A. Jon Magoon in an article he wrote for the *Review of Educational Research*. Although the term *constructivism* had not been used before 1977, philosophers such as Plato and Aristotle intuitively recognized the fact that individuals create their own knowledge by modifying their previously constructed knowledge. For example, Plato realized that human knowledge is not passively received and that we actively interpret the information received through the senses.

St. Augustine and St. Thomas Aquinas, as well as Giambattista Vico, also included constructivist ideas in their writings about learning. Both John Locke, an empiricist, and Immanuel Kant, a rationalist, stated that people construct their own ways of knowing the physical world. Among the more recent writers, constructivist ideas can be found in

the writings of John Dewey, William James, and Lev Vygotsky. Jean Piaget is the clearest example of a constructivist as can be seen in his 1954 book, *The Construction of Reality in the Child*.

Constructivism emerged in reaction to the strong influence of empiricism and behaviorism. Empiricists assume that knowledge originates outside the individual, who internalizes it through the senses. Behaviorism is a more precise, scientific theory that grew out of empiricism. Behaviorists believe in causing learning by systematically rewarding the learner for making “correct” responses.

Although constructivism is a *descriptive* theory, its *application* can be found in education in many different forms. A traditional lecture punctuated with questions and discussions by the audience is one example. Another example is cooperative groups, and a third example is problem-based instruction.

Constructivism in Early Childhood Education

Because early childhood education covers the years between birth and age 8, it is impossible to think about early childhood curricula without examining how each deals with play. There is a large variety of early childhood curricula in existence today, and one way of characterizing them is in terms of how their creators thought about play.

Another characteristic of early childhood curricula is that it has a long tradition of focusing on child development as opposed to the subject-matter approach of elementary schools. As the term *development* implies, the child development approach has constructivist elements.

The Four Types of Classrooms Described by DeVries

A way of describing constructivism in early childhood education is in terms of the four types of curricula conceptualized by Rheta DeVries. She categorized the following four types in terms of how play is incorporated in the curriculum and said that type D characterizes a constructivist approach:

Classroom Type A: Play is peripheral to learning and academic work.

Classroom Type B: Play is disguised academic work.

Classroom Type C: Play is integrated with social and emotional developmental goals.

Classroom Type D: Play and work are integrated with social, emotional, moral, and intellectual developmental goals. (DeVries, 2001, p. 82)

Types A and B are rooted in elementary education, and the emphasis is on academics. This approach reflects an empiricist or behaviorist view of knowledge, and learning is believed to result from the transmission of information from outside the individual. By contrast, types C and D share the goal of development. These have their roots in the history of early childhood education in the United States, and the curriculum stresses self-selected, self-directed activities in centers of interest such as housekeeping, blocks, sand, and water.

Classroom Type A

Children in type A classrooms spend almost the entire day in academic work, leaving little time for play. Examples of academic work include letter sounds, the days of the week and months of the year, color names, time on a clock face, and the number of cents in pictured coins.

Center time is often reserved for the last 20 or 30 minutes of the day as a reward to children who have finished their work. During this time, children may build with blocks, play with toy cars and trucks, and engage in pretend play.

Classroom Type B

In classroom type B, children also work on academics, but these are disguised by the use of colorful materials intended to appeal to children. Children in type B kindergarten classrooms may spend some time in large group activity such as listening to stories and watching informational videos on topics such as farm animals (also found in types C and D classrooms). Rather than have free choice, children typically follow a daily

or weekly rotation through the following types of centers:

Classification/math: Children may put together paper cutouts of flower pots of the same color or put cutout, numbered bees in numerical order.

Literacy: Children may put together two halves of a paper butterfly, one half with an uppercase letter and the other with its corresponding lowercase letter.

Fine motor skills/art: Children may cut out petals outlined by the teacher on construction paper.

Classroom Type C

In contrast to the focus on academics in classroom types A and B, the goal of classroom types C and D is development from within. The curriculum stresses self-selected, self-directed activities in centers of interest such as the following:

Sensory experience: Children pat and roll Play-Doh. They use funnels, pour water into different containers and empty them, and wash dolls.

Literacy: Children look at books in the library area. They listen to stories read by the teacher or to recorded stories, write or draw stories, and dictate stories to an adult.

Construction: Children build structures with blocks and Legos.

Pretend play: Children dress up as adults and pretend to cook, eat a meal, and feed a baby in the housekeeping center.

Art: Children paint at the easel.

Cooking: Children help the teacher make muffins by pouring ingredients as the teacher directs. Each child who is observing gets a chance to stir.

Classification: Children sort plastic animals by color.

Science: Children learn that fire needs air to burn by watching as the flame of a candle is extinguished when a glass is placed over the candle.

Classroom Type D

Type D classrooms look like type C classrooms on the surface, but type D teachers are constructivist and teach with a different goal in mind—autonomy as the aim of education. What Jean Piaget meant by “autonomy” is not the *right* to make decisions for oneself but the *ability* to take relevant factors into account and decide for oneself, independently of reward and punishment, what is right or wrong in the moral realm, and what is true or untrue in the intellectual realm. (Readers interested in the subject of autonomy as the aim of education are referred to Chapter 4 in the 2000 book *Young Children Reinvent Arithmetic* by Constance Kamii.) Autonomy as the aim of education is in contrast with the obedience that traditional schools inculcate.

When autonomy is the aim of education, teachers engage children in making rules to live by and in making some decisions about life in the classroom. When children make rules to live by, they have to exchange viewpoints with others and think hard before they vote.

In type D classrooms, some of the classroom activities look like child development activities, but they are conducted differently to encourage children to think and to make decisions. A few examples follow:

Musical chairs: Before playing the game, children negotiate to decide whether to play with as many chairs as children, or with one chair fewer than the number of children. They then negotiate to decide how to arrange the chairs—in a line facing the same way, back-to-back in two lines, or in a circle. If there is a dispute, the teacher facilitates the exchange of viewpoints until the parties agree on a solution.

Cooking: Two children select a recipe and decide what ingredients they need to ask the teacher to get to cook for the class snack on the next day. On the next day, they follow a written and illustrated recipe to make the class snack, without the teacher’s assistance.

Physical knowledge activities: These are activities such as pick-up sticks in which children act on

objects to produce a desired effect. In pick-up sticks, children try to pick up one stick after another without making any other stick move. A great deal of logico-mathematical thinking is stimulated when the goal is to pick up more sticks than anybody else. For example, children *classify* the sticks into “those that are touching other sticks” and “those that are *not* touching any other stick.” They *seriate* the sticks into “the easiest to try to pick up,” “the next easiest,” and “the hardest.” They make *spatial* and *temporal relationships* when a stick is resting on another stick.

Pretend play: Using a red sweater for a hood, children cooperate to act out *Little Red Riding Hood* for other children to watch.

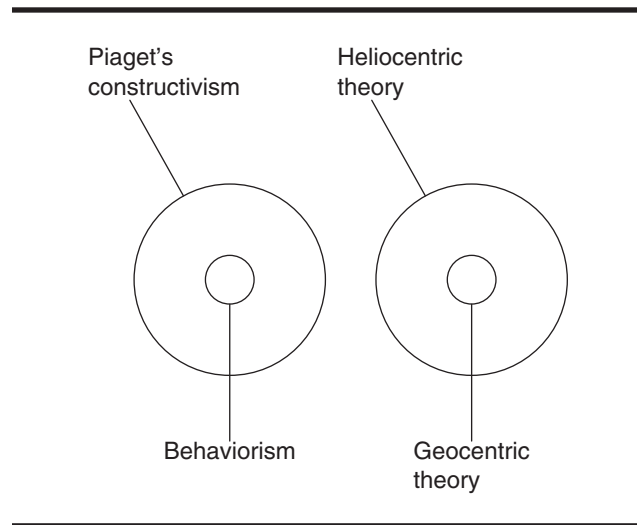
Literacy: Children write in personal journals at the writing table, write or pretend to write stories that they illustrate, or make a list of things they did over the weekend.

Mathematics: As they play a bowling game, children figure out how to keep score on a whiteboard to know who won. They also play card games such as Piggy Bank in which they try to find two cards that make five (a 2 and a 3, for example).

A characteristic of DeVries’s type D classroom is that it is based not on a philosophy but on Piaget’s scientific theory. In *The Origins of Intelligence in Children* and *The Construction of Reality in the Child*, Piaget explains his idea that beginning on the first day of life, knowledge is constructed from within. Piaget went on to study scientifically for more than 40 years children and adolescents’ construction of logico-mathematical knowledge.

As can be seen in Figure 1, the relationship between behaviorism and Piaget’s constructivism is analogous to the one between the geocentric theory and the heliocentric theory. The geocentric theory, which states that the earth is at the center of the universe, existed first and was very limited in scope. The heliocentric theory turned the relationship between the sun and the earth upside down by stating that the sun is at the center of the universe and the earth and planets revolve around it; this theory greatly expanded our view of the

Figure 1 The Relationships Between Behaviorism and Piaget's Constructivism and Between the Geocentric and Heliocentric Theories



universe. Likewise, behaviorism existed first and was (and still is) limited in scope to surface behavior. Piaget's constructivism went beyond surface behavior and expanded the scope of learning.

Behaviorism and Piaget's constructivism are both scientific theories that have been verified all over the world. The question that must be answered is: How can two scientific theories be so contradictory and both have explanatory power? The answer to this question is that Piaget's theory can explain everything behaviorism can explain, but the converse is not true. As a biologist, Piaget pointed out that all animals adapt to reward and punishment and that higher animals such as dogs can anticipate the reward and punishment. Dogs can anticipate the appearance of meat when they hear a bell. Piaget also explained the concept of "extinction" by stating that when the meat stops appearing, dogs stop anticipating its appearance.

An interesting fact about these scientific revolutions is that the new theory supersedes the old one, but the old theory continues to be used within a limited scope. For example, the sun stopped going around the earth when the heliocentric theory was introduced, but we still speak about the sunrise and sunset, and the weather forecast continues to tell us that the sun rises every day. Likewise, Piaget's constructivism has been verified all over

the world, but it is still true that behaviorism produces more correct answers to specific questions.

Some early childhood curricula claim to be based on Piaget's constructivism, but they are not because they fail to deal correctly with logico-mathematical knowledge. Logico-mathematical knowledge consists of mental relationships that are constructed from the first day of life and include classificatory, seriation, numerical, spatial, and temporal relationships. Other curricula claim to be constructivist, but they are based on intuitive feelings that do not have a scientific foundation.

Since the 1960s, preschool education has focused heavily on the school readiness of disadvantaged children. In trying to promote children's linguistic and intellectual development, child development teachers often use behaviorist theory without realizing the contradiction. A heavy emphasis on testing has also caused the National Association for the Education of Young Children to include more specific cognitive and linguistic objectives in its recommendations on developmentally appropriate practice.

Constructivist Programs in Grades 1–3

Reading, writing, and arithmetic become the major focus of the curriculum in Grades 1 through 3. In reading and writing, the whole language movement, which supports teaching children to read through literature and focus on the meaning of words, grew out of opposition to associationist and behaviorist practices. Some of the leaders of the whole language approach saw in research by Emilia Ferreiro and Ana Teberosky, based on Piaget's theory, a scientific rationale for whole language. Books such as *How Children Construct Literacy* and *Early Literacy: A Constructivist Foundation for Whole Language* explain further the connection between whole language and constructivism.

In arithmetic, too, constructivist mathematics developed, especially in California, on the basis of an intuitive conviction that traditional math was not working. As can be seen in her book *Young Children Reinvent Arithmetic*, Kamii's approach to constructivist mathematics was different in that her approach was based on Piaget's theory. She

hypothesized that children should be able to invent arithmetic without any teaching in the traditional sense. This hypothesis was not only confirmed, but the teaching of “carrying” and “borrowing” turned out to be harmful to children’s development of number sense and understanding of place value.

Constance Kamii

See also Acquisition of Reading and Writing; Approaches to Learning; Child Development and Early Childhood Education; Child-Initiated Learning; Early Literacy Development; Early Number Representation Development; Free Play, Importance of; Prekindergarten; Reading; Science

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CONSTRUCTIVIST CURRICULUM

Constructivist curriculum is a framework for planning and implementing activities, creating the physical environment, creating the social environment and classroom culture, and defining the role of the teacher. This curriculum framework is based on the theory of learning called constructivism. This entry first discusses the theoretical basis of constructivist curriculum and then the overarching values and principles of the constructivist curriculum. Then, each of these elements of a curriculum framework is discussed: (a) activities and experiences planned and implemented for children, (b) creation of the physical environment, (c) creation of a classroom culture, and (d) role of the teacher.

Constructivism

Constructivism is a theory of how children learn, derived primarily from the work of the psychologist Jean Piaget. This theory contends that children learn through interactions with their environment, constructing knowledge through those interactions. Children bring to these interactions their mental schemes, concepts, or “theories,” based on their prior experiences and constructed learning. By applying these theories, children encounter new knowledge that is then incorporated in more and more complex understanding of the world. The term *theory building* is used here to refer to this process of knowledge construction. Although constructivism focuses on the cognitive processes that occur as children interact with the world, these processes are seen as closely connected to the social and emotional

domains, acknowledging the importance of motivation and relationships.

Lev Vygotsky, a Russian psychologist, also has contributed to the theoretical framework that underlies constructivist curriculum. His work is the basis of social constructivism, focusing more on the role of the social context—adults, peers, and language—in the construction of knowledge.

From the perspective of constructivist theory, children are, from birth, striving to understand the world around them, actively applying their theories and learning from those interactions. The social and physical environment is critical for providing opportunities for knowledge construction, but it is not the source of children's learning. This is in contrast to behaviorist theory, which contends that it is environmental stimuli and external reinforcements that produce behavioral change, with less focus on biological cognitive structures that are the central to the constructivist approach to learning.

Elements of the Curriculum Framework

Constructivist curriculum has been articulated by many, with differing foci, and is seen as a core element of many approaches, including the work in and inspired by Reggio Emilia and the project approach. Although there are a number of different curriculum frameworks that fall under this category, there are some shared principles and values underlying them. One shared value is a deep respect for children and what each child brings to the learning context, acknowledging and celebrating diversity of experiences and perspectives. Underlying constructivist curriculum is an image of the child as capable and competent, with openness to learning from and with children. Thus, another belief is that teaching involves actively supporting and facilitating the child's learning rather than transmitting knowledge; in fact, constructivist curriculum includes the view that teachers are co-learners and co-researchers with children. Broadly, another view underlying constructivist curriculum is that the aim of education is not the accrual of information but the ability to think deeply and critically and to engage in collaborative and respectful work with others.

Another commonality is the consideration of the different kinds of knowledge that children construct and acquire. First discussed by Piaget, but elaborated on by Constance Kamii in terms of early childhood education, is the delineation of three types of knowledge—physical knowledge, logico-mathematical knowledge, and social (or arbitrary) knowledge. Physical knowledge is empirical and observable; logico-mathematical knowledge is in one's head and is applied to the empirical world (e.g., size, which does not exist in the object but depends on what one is comparing); and social/arbitrary knowledge. The first two, physical and logico-mathematical knowledge, are constructed by the child through interaction with the world. The third, social knowledge, cannot be constructed and must be transmitted to the child, as, for example, the particular names of things or practices unique to the child's culture.

Among the many approaches to constructivist curriculum, the work of Kamii has been a cornerstone of such efforts. In her early work, she (with Rheta DeVries) focused on physical knowledge activities and games with rules; in her later work, she has focused on mathematics, from preschool through fourth grade. She has also contributed a deeper understanding of Piaget's theory to include a focus on autonomy as the aim of education.

Activities and Experiences

In thinking about curriculum in general, there is a continuum between child-directed and teacher-directed activities and experiences. Whereas there are some in the field who might contend that constructivism falls on the child-directed end of the continuum, others consider this a common misconception. Constructivist curriculum entails a dynamic interaction between the teachers and the children, a negotiated "dance" that honors children's interest and engagement and that is both provocative and responsive. Teachers are observant and reflective, often basing planned activities on what has been observed in previous experiences or on spontaneous opportunities.

A few key elements are characteristic of the activities and experiences representing a constructivist curriculum. In general, children have opportunities to interact with the materials and the experience in a number of different ways, allowing for different points of entry for each child. As children engage, they are free to pose their own problems and questions of the materials and be self-directed. The opportunity in the experience is clear and requires little (or no) explanation by the teacher, although often an introduction is offered that is nondirective but could include discussion of any issues for children to consider when engaged (e.g., safety issues).

Activities and experiences can be more or less structured, depending on the teachers' intentions. For example, for an experience that involves combining cornstarch and water, creating an interesting liquid/solid substance, there might or might not be other materials available for further combinations, depending on whether the teacher is interested in how those materials interact with the mixture of cornstarch and water. An experience rolling balls down ramps with different textures might or might not also provide the opportunity for children to vary the height of the ramp or the size of the ball. Teachers' planning considers whether the intent is to explore a range of possibilities or to narrow the focus on fewer.

Regardless, the planning of activities, while thoughtful, thorough, and intentional, is combined with flexibility, with the willingness to change direction based on the teachers' observations of children's actions and interests. This combination of planning and flexibility is a hallmark of a constructivist approach to experiences and activities.

Creating the Physical Environment

The physical environment is an essential part of the constructivist curriculum. Intentionally designed to support children's explorations and experimentation, the environment is designed to allow for unmonitored movement and good flow throughout the spaces. Flexibility is another key element of the environment, as the space needs to

be adaptable to different uses and thus easily transformable. Contrast this with a more traditional curriculum approach, with individual desks facing the front of the room, implying whole group work with the teacher directing. In addition, materials in the space should be displayed intentionally to encourage the children's work and play, with accessibility to those materials children might choose to incorporate into their play.

Materials and objects are chosen carefully, with an eye to multiple possibilities of their use rather than constrained choices. Because deep engagement is valued, the materials and objects are available over a period of time rather than rotated or changed constantly.

Thinking about the physical environment also includes ensuring that it supports the classroom culture that is a part of the curriculum.

Creating a Classroom Culture

The social environment is also a key element of the constructivist curriculum. Two aspects of the social environment that are intentionally planned and monitored are (1) social interactions in the classroom and (2) values and constraints that provide guidelines for the classroom community.

The constructivist curriculum incorporates opportunities for both individual work and social interaction. Young children are social beings, and they learn a great deal through and about social interactions with peers as well as with adults. Setting up activities that have opportunities for either working alone or with peers is considered, as are activities where social interaction is necessary. In addition, the constructivist curriculum will incorporate opportunities for whole group discussions in which children have the opportunities to listen and respond to multiple perspectives.

The values and constraints, or guidelines for the class, are both explicit and implicit. Explicitly, many constructivist teachers work with the children to develop classroom rules that will enable them to work together, including ideas for handling conflicts and problems as they arise. Implicitly, the constructivist curriculum implies a culture of respect and

caring, which can be stated, practiced, and modeled in many contexts and supported in many ways.

The Role of the Teacher

The constructivist teacher plays a very dynamic role in the classroom. First, the teacher models engagement, inquiry, and respect for others in how ideas are presented to the class, in how activities are described, and in how classroom discussions are held. The teacher is creating a rich, supportive, physical and social environment. The teacher is an active observer, deeply observing what children are doing and listening to their conversations. The teacher is a question-asker and problem-poser, basing these on observations of what is going on and being careful not to interrupt children's theory building. The teacher documents children's explorations, researching what children are doing and trying to understand what they are thinking. Finally, the teacher is a theory builder alongside the children, open to new ideas, experimenting with the curriculum, and then learning from those experimentations.

Conclusion

In sum, constructivist curriculum, grounded in the theoretical perspectives of Piaget and Vygotsky, entails a broad and complex view of curriculum—creating the physical and social environment, blending thoughtful and extensive planning with flexibility based on careful observations of children, engaging in dialogue and collaboration, co-learning and co-researching, between and among the children and teachers.

Christine Chaillé

See also Cognitive Developmental Theory; Constructivism; Curriculum and Early Childhood Education; Project Approach; Reggio Emilia Approach; Sociocultural Theory

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CONTENT KNOWLEDGE

Content knowledge is often thought to be the factual knowledge people learn as they study a range of academic disciplines in school. This view is, in part, true. A 2009 position statement by the National Association for the Education of Young Children (NAEYC) indicates that in addition to facts, content knowledge includes an understanding of the essential concepts, inquiry tools, and structure of various content areas, including academic disciplines. Further, NAEYC advocates that the content of early childhood curriculum should focus on language and literacy, the arts, mathematics, science, social studies, and physical activity.

In the context of early childhood education (ECE), it is nearly impossible to separate development and learning. Thus, content knowledge must also be situated and considered developmentally. This entry begins by addressing the question of why building content knowledge in the early childhood years is so important. Next, the entry further defines the three distinct elements of content knowledge (essential concepts, inquiry tools, and structure of content areas) and concludes with examples illustrating intersections between content knowledge and developmental understandings.

Why Is Building Content Knowledge in ECE Important?

The early childhood years lay an important foundation for later learning. Thus learning experiences with the youngest children should be designed to support later academic skills and success. Young children tend not to separate learning experiences into academic categories or disciplines; however, it is important that teachers of young children be aware of how learning experiences align with academic disciplines. For example, teachers of young children should be able to make connections between their curriculum and relevant aspects of each subject area (language and literacy, the arts, mathematics, science, and social studies) that is essential to children's later academic success and developing competence.

It is within the early years that children should develop confidence in themselves as not just learners but also young literary critics and authors, young artists, young mathematicians, young scientists, and young historians, economists, anthropologists, and geographers. Because children learn by doing and through active engagement, it is essential that teachers of young children model engagement in challenging subject matter as a way of building children's confidence and competence.

To model this engagement for children, ECE teachers need to possess their own rich content knowledge that extends beyond factual knowledge. In addition to possessing sufficient content knowledge, teachers of young children must also have an understanding of early learning standards and other subject matter specific standards. Effective use of sound developmentally appropriate standards along with sufficient content knowledge enables teachers to design and implement curricula that support children's content learning. A challenging curriculum emerges when there is alignment between learning standards, a teacher's content knowledge, and the teacher's developmental knowledge. An application of such knowledge informs the creation of learning experiences that focus on key aspects of each content area in ways that are tailored to the developmental needs and

constraints of a particular age group. When early subject matter learning is grounded in the essential concepts, includes inquiry tools, and reflects the structure of academic disciplines, young learners are well prepared for later academic success.

Elements of Content Knowledge

Every academic discipline is comprised of a body of factual knowledge. For example, factual knowledge includes statements such as "Plants and animals are both living things" and " $3 + 2 = 5$." However, true understanding is more than an accumulation of bits of factual knowledge; it requires that isolated bits of factual knowledge be organized and connected to one another. An understanding and application of the essential concepts, inquiry tools, and the structure of academic disciplines helps one build or construct his or her content knowledge.

The understandings one has about the structure of academic disciplines provide a framework for making sense of the overall purposes and goals of the discipline. Given that one learns content knowledge for real life and not solely for school, it is important to understand why it is that individuals learn or study particular disciplines in the first place. Science provides a way of explaining the natural world. History and anthropology seek to explain changes in the social world over time through a lens of economics, culture, or politics. Geography helps us understand how the natural world and social world interact and influence one another. Mathematics makes use of patterns and structure to create models that help us study, understand, and explain the complexities of the natural and social world. Finally, literacy—being able to read, write, and communicate through speaking, gesturing, or representing ideas in other ways—allows one to interact with the world around him or her so that it can be understood scientifically, historically, geographically, mathematically, and even poetically or literarily.

Understanding the nature of academic disciplines requires one to recognize that what is broadly accepted as factual knowledge is often subject to change. For example, as astrophysicists

refine and dispute the definition of a planet, there is contemporary debate over whether or not Pluto is a planet or what is now called a dwarf planet. As historians seek to describe and explain the past, they do so by drawing on the artifacts that have survived through the ages, all the while knowing that the surviving artifacts may or may not fully capture the realities of a past time or that at some future date new evidence might be found that challenges current historical explanations. Although one may learn key features of a persuasive argument, writers and orators apply these features in quite varied ways, and what one person finds to be a compelling argument others might very well reject.

There is a range of inquiry tools, skills, or processes that characterize the ways in which geographers, historians, literary critics, mathematicians, scientists, and writers conduct their work. This includes the ways that they generate new knowledge, make new discoveries, or engage in new ways of thinking as they work to solve complex problems. The processes are fairly similar across disciplines. For example, scientists, historians, and mathematicians all ask questions and define problems; plan and carry out ways to seek answers to their questions; gather, analyze, and interpret information; construct explanations regarding their questions or propose solutions for the identified problems; support their explanations or solutions by using evidence; and communicate their findings through a form of disciplinary argument. Writers engage in the writing process with parallels to the activities just described—they write with purpose for a particular audience, and initial drafts are critiqued and revised before final publication. One should not learn or use these tools in isolation but rather while one engages in the essential concepts that characterize each discipline.

Within each academic discipline there are essential concepts, those big ideas that help people make sense of their experiences in the world and that help them make sense of seemingly isolated facts. By their very nature, essential concepts help individuals connect ideas and support the generalizable understandings that have relevance in new

situations and even across academic disciplines. Essential concepts are foundational to academic disciplines, and yet because they are so foundational, even young children are able to access these concepts in simplified form. For example, patterns (one of the crosscutting concepts identified in the Next Generation Science Standards) abound in science (as well as many other academic disciplines). Looking for and recognizing patterns enable one to organize and classify things in the natural world. This may be as complex as recognizing the patterns of base-pairs in DNA and the three-dimensional structure of a protein that a particular sequence of DNA might produce. Recognizing patterns also helps an individual distinguish between one type of living thing and another, whether he or she is trying to distinguish between a house finch and a purple finch, a reptile and an amphibian, or simply something that is living versus nonliving. It may also be as simple as children being able to sort a set of objects based on size (or some other feature), function, or material the objects are made of. An understanding of the essential concepts within an academic discipline helps one understand the discipline in a coherent and connected way. Ideally, individuals actively construct this understanding as they make use of inquiry tools.

Intersections Between Content Knowledge and Developmental Understanding

As stated earlier, in ECE it is difficult to separate development and learning. Because of this, teachers of young children must have specialized content knowledge that some have called pedagogical content knowledge and others have called content knowledge for teaching. This kind of specialized content knowledge enables teachers of young children to transform their content knowledge in ways that make the essential concepts, inquiry tools, and structure of the discipline accessible to young children. This allows children to engage in learning content knowledge in meaningful and appropriate ways. Brief examples from literacy, mathematics, science, and social studies illustrate how a teacher's

content knowledge and developmental understandings intersect in important ways.

Long before children write with conventionally recognizable letters, their drawing is distinguishable from their writing. Initially children will convey meaning primarily through their drawings. Then they begin using random strings of letters to convey meaning with both letters and images. Random strings of letters are then replaced with “words” where there is a discernible letter–sound connection, making this emergent writing “readable” by others. Understanding this developmental writing continuum helps teachers encourage children to convey meaning through drawing and text as they recognize children’s early yet unconventional writing.

Even the simplest mathematical calculations require an understanding of numbers. An intuitive number sense begins at an early age. Counting small groups of objects helps children develop number words in sequence and ideas about quantity (the 1:1 correspondence between each number and each item). It is not uncommon for children to count before they understand quantity and for children to understand quantity before they recognize that the symbol “3” represents the quantity 3. The simple equation $3 + 2 = 5$ becomes a good deal more complex when one realizes that solving it requires the coordinated understanding of number words, quantity, and number (and mathematical) symbols.

Adults easily recognize that both plants and animals are living things, but for young children it is not uncommon for them to have difficulty understanding that plants are indeed living things. All living things grow, move, reproduce, use energy, and eventually die. Children’s developing ideas about the world, though, are largely tied to the things that they can see. Of the abbreviated list of characteristics of living things just stated, movement is the most easily observed feature and this influences what children consider to be living or nonliving things. When teachers connect this developmental knowledge with content knowledge, they are able to understand why young children often consider plants to be nonliving things and why they might also consider clouds, fire, or rivers to be living.

Chronology, or understanding the sequence of important historical events, is at the heart of knowing history. Dates and the passage of time, whether months or centuries, are abstract concepts that are difficult for young children to understand. However, even young children are able to look at a set of images or artifacts and place them in a fairly accurate sequence based on time. Recognizing the ability to sequence events as a foundational element of chronological thinking positions teachers to leverage this developmental understanding to support children’s historical content knowledge by initially focusing on sequencing events rather than dating events.

In summary, content knowledge includes an understanding of essential concepts, knowledge of and ability to use the tools of disciplinary inquiry, and an understanding of the structure and nature of different academic disciplines. When viewed in this way, content knowledge is robust, generative, usable, and readily applied in everyday situations.

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See also Curriculum and Early Childhood Education; Developmentally Appropriate Practice; Early Childhood Teacher Education; Early Literacy Development; Early Number Representation Development; Pedagogical Knowledge; Science; Social Studies Topics; Standards

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CONVERGENT AND DIVERGENT THINKING

The distinction between convergent and divergent thinking has now been used in the social and behavioral sciences for more than 60 years. It has proven to be enormously useful for both theory and practice. Tests of divergent thinking can be given to children even before they start school, thus providing an early measure of the potential for creative thinking. Tests of divergent thinking have demonstrated long-term predictive validity. Empirical results indicate that the results of these tests are more strongly related to accomplishments in the natural environment than are scores from measures of convergent thinking, including the IQ and grade point average. Adaptive behavior in the natural environment requires both convergent and divergent thinking, but the latter has received a great deal of attention because of the information it provides about creative potential. This entry discusses the differences between convergent and divergent thinking, research into convergent and divergent thinking, the tests used to measure these types of thinking, and how these types of thinking relate to creative behavior and problem solving.

Divergent thinking is used for open-ended or ill-defined tasks. These allow thinking that moves in divergent directions. This allows the individual to discover original ideas. Original ideas are those that are infrequent, novel, and uncommon. Few people think of them; they are unconventional. Tests of convergent thinking, in contrast, require that an individual produce a correct or, at the very least, a conventional answer. Conventional answers are common; many people will think of the same

thing. They are in that sense unoriginal. They are often based in fact and found by searching long-term memory and drawing from experience.

The distinction between convergent and divergent thinking may imply a dichotomy, but in actuality convergent thinking and divergent thinking represent two poles on a continuum. Most tasks assessing convergent or divergent thinking actually represent one position on that continuum. Some tasks are more convergent than others, and some are more divergent than others. This is an important point, especially because realistic theories of creativity recognize that both divergent and convergent types of thinking are involved.

Research on Convergent and Divergent Thinking

The distinction between convergent and divergent thinking has proven to be especially useful for the research on creativity and for decisions about how education might support the development of creative capacities. That is because divergent thinking tests provide reliable information about originality, and originality is a prerequisite for creativity.

It was the recognition that convergent thinking and divergent thinking could be separated from one another that pushed studies of creativity forward more than any other theory, concept, or measure. Before this distinction was offered by J. P. Guilford, many people questioned whether or not creativity was separate from general intelligence. Before Guilford's work, people often thought that creativity was just a kind of intelligence, and therefore all you had to do to support creativity was to support general intelligence. Since Guilford's time, an enormous amount of research has supported the distinction between convergent and divergent thinking and further supported the idea that it is one thing to support convergent thinking but quite another to support creative potential.

Tests of divergent thinking are not tests of *creativity*. Rather, tests of divergent thinking are estimates of the *potential* for creative thinking. They are *estimates* because, like all tests, they are just samples of a larger universe of behaviors. Like all

tests, tests of divergent thinking have some measurement error. Tests of divergent thinking indicate the potential for creative thinking because there is never any guarantee that what is found on a test will manifest itself later, in the natural environment. It is not actual creative behavior that is being measured by tests of divergent thinking. It is instead a capacity that might in the future lead to actual creative behavior. Correlations between divergent thinking and actual creative behavior indicate that, when a child earns a high score on a test of divergent thinking, he or she is likely to display creative behavior.

Tests of Convergent and Divergent Thinking in Early Childhood

Many tests of convergent and divergent thinking can be used in early childhood, although with children younger than 3 years of age it is best to administer the divergent thinking tasks in an interview sort of format. This requires that the examiner have good rapport with the child. Plenty of research has demonstrated that if rapport is lacking, the divergent thinking scores will not be meaningful. Divergent thinking tests are especially sensitive to administration factors, more so than other tests of potential. The testing setting and the general climate in which a test is given are extremely important. The test setting should allow the child to relax and recognize that there are no risks, no possibility of criticism or penalty. Put briefly, divergent thinking is only accurately assessed in a *game-like testing environment* and not in a *test-like environment*.

All tests of divergent thinking work best if the child is allowed to approach them more as a game than a test. When working with children in the early elementary years, it is best if the examiner comes right out and says, "This is not a test." If a child receives a divergent thinking task but assumes that it is a test, he or she is very likely to think convergently and in a conventional fashion and not be original. Here are some of the key points to emphasize when administering a test of divergent thinking:

This is a game (not a test).

Take your time. Take as much time as you need.

There are no points being given. No grades.

Spelling does not matter (if it is a written test and not an interview).

There are no wrong answers.

The more ideas you can think of, the better!

Have fun.

Many of these are only necessary if the child has started school and thus has experienced academic tests. Preschool children also should receive divergent thinking tasks in a relaxed environment and be told to have fun and to give as many ideas as they can.

When working with a child of age 3 or younger, instead of some paper-and-pencil task, it is best to allow a child to play with a series of concrete, tangible, three-dimensional (3D) objects. These might be simple pieces of Styrofoam. The test would involve giving the child one Styrofoam shape, allowing him or her to look at it and hold it, and asking the child: "What could that be? Can you tell me all of the different things that could be?" The child should also be told to name as many different things as possible.

Good tests are reliable, and reliability benefits from having multiple items. A short test is usually unreliable. For this reason, after the child gives as many ideas as he or she can for that first 3D object, the examiner can say, "I have another fun object for you to play with," and replace the first object with a second shape. The examiner then goes through the encouragement to elicit a large number of ideas once again. After this, a third object should be used. Three objects tend to work well. Even more objects might increase the sample of ideas and might increase reliability, but it is also possible that the child will tire. *Fatigue effects* should be avoided.

Tests in the Guilford, Torrance, and Runco divergent thinking batteries all include a test called "Uses." It names a common object (e.g., spoon,

shoelace, chopstick) and asks that child give as many possible uses as he or she can think of. “Titles” is another reliable test. It names a story with which the child is familiar (e.g., Titanic, the Hobbit, Spiderman) and asks for a list of alternative titles. This is probably better for children at age 5 or perhaps a bit older. Some tests are “visual” or “figural.” They present an abstract drawing to the child and ask for a list of “all of the things this could be.”

Tests of divergent thinking are typically scored for fluency (the number of ideas given by any one child), originality (the number of unique or uncommon ideas), and flexibility (the number of conceptual categories suggested by a child’s entire output of ideas). Occasionally only fluency is used, which is justified by the correlations among fluency and the other two indices, but a careful reading of the research indicates that it is much better to consider all three indices. There is unique variance to originality and flexibility, for example, and experimental demonstrations of the independence of the three indices. The theory of divergent thinking clearly indicates that fluency alone is inadequate. Recall also that it is originality, not fluency, that is recognized in theories of creativity. The use of fluency alone should be avoided.

New technologies allow computer scoring of fluency, flexibility, and originality. They have also added indices that indicate average response latency (time between ideas) and semantic richness. It is useful to consider how each index is derived: A child’s fluency score represents the number of ideas produced. Hence, fluency is derived simply by counting the number of discrete ideas. To derive originality, the ideas given by children are listed in a lexicon, alphabetically arranged. The lexicon should also contain some indication of which child gave which ideas. Common ideas will be obvious in the lexicon because several children will have given the common ones, but only one child (or very few) will have given the original ideas. Suppose, for example, that children are asked to “list things that are square.” If one child gave “my dad’s music” as an answer, that would earn one originality point because only one child gave the idea. If 10 children gave “TV” as an

answer, they would not earn originality for that idea. It is a common idea. There are alternative scoring systems for originality, some giving weights that decrease as the commonness of the idea increases.

Flexibility is also a very important part of divergent thinking. Describing a child’s thinking as flexible indicates that the child uses a number of different conceptual categories when solving problems or generating ideas. If one child looks at that square object and says “television, computer, radio, and DVD,” these ideas are all in the electronic category and there is very little flexibility. But if the child says “television, a sugar cube, my friend’s head, and dice,” three or even four conceptual categories are used, implying a higher level of flexibility.

It can be useful to give realistic tests of divergent thinking to children in the elementary grades. Instead of asking for ideas about an ambiguous figure, for example, or ideas about square things or uses for a shoelace, older children can be given a scenario, something that could actually occur (e.g., “You are on your way to school but forgot your homework.”). Such realistic tests seem to have superior predictive validity, but there is also some indication that they are more experientially biased than the more traditional and abstract divergent thinking tasks, such as uses for a shoelace. Apparently, when children receive highly realistic tasks, they tend to draw more on memory and experience. They are not, then, using as much of their imagination or capacity for creative thinking. The use of experience is considered a *bias* because it would give children who have richer experiences an advantage. In that light, the more traditional and abstract tests of divergent thinking, which require more on-the-spot problem solving and imagination, are probably more attractive.

Convergent and Divergent Thinking in Context

It is easy to see the difference between questions designed to elicit convergent thinking versus those designed to elicit divergent thinking. The former are closed, with one or very few correct

or conventional answers, and the latter are open-ended and allow multiple responses. It is also easy to see why tests of divergent thinking are often used as estimates of the potential for creative problem solving. They are not tests of creativity per se but may be indicative of one part of creativity, that is, the production of ideas. This is especially true for the originality index from divergent thinking.

There are different kinds of divergent thinking tasks. Some are more useful with preschool children, whereas others may be useful with children entering the school years. All of them require that the child is assessed in a relaxed, game-like, playful environment. All of them offer information about a child's fluency, originality, and flexibility with ideas.

Both convergent and divergent thinking are important. Creative performance in the natural environment probably requires both convergent and divergent thinking. They may work together, or they may work in some sort of sequence, when some divergent thinking is needed, but after a time convergence becomes more important. Some performances, both in school and in the natural environment, may require one or the other rather than both. Children should have opportunities to practice both divergent and convergent thinking if they are to develop mature, adaptive problem-solving skills.

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See also Assessment, Limitations of; Creativity; Imagination; Objectivity and Subjectivity in Assessment; Reliability and Validity in Child Assessment; Thinking

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COOPERATING TEACHERS

A *cooperating teacher* is an experienced classroom teacher who serves as a mentor and supervisor to a preservice teacher who is placed in his or her classroom to fulfill a required field-based component of his or her teacher preparation program. Educational research has repeatedly confirmed that cooperating teachers play a critical role in preservice teacher preparation. This entry provides a description of cooperating teachers' roles and responsibilities, highlights the important influence that cooperating teachers have on preservice teacher development, and presents the issue of preparing cooperating teachers for their work with preservice teachers.

Overview

Clinical experiences are a central feature of early childhood teacher preparation programs in the United States. During these field-based experiences, preservice teachers have the opportunity to observe, develop, and practice critical teaching skills under the guidance of an experienced cooperating teacher. Cooperating teachers, in partnership with institutions of higher education, invite preservice teachers into their classrooms with the goal of helping them develop the knowledge, skills, and dispositions necessary to be effective teachers. In some teacher preparation programs, cooperating teachers may also be referred to as coaching teachers, mentor teachers, or co-teachers.

Cooperating Teachers' Roles and Responsibilities

Cooperating teachers play multiple and varied roles. Not only do they model skills associated with teaching, but they provide guidance to preservice teachers by explaining the decisions behind their teaching, making explicit the reasons they chose to employ specific methods and strategies. In addition, cooperating teachers scaffold preservice teachers as they engage in teaching activities such

as lesson planning, classroom guidance and discipline, and engaging with families. Cooperating teachers may also guide preservice teachers through the processes of self-assessment and reflection while offering feedback that highlights their strengths and identifies areas for improvement.

Typically, cooperating teachers also have the responsibility of conducting a variety of assessments and evaluations that are mandated by the teacher preparation institution and/or the state's licensure granting agency. Some scholars have raised concerns, however, about whether a cooperating teacher can fully achieve a true mentoring relationship with a preservice teacher in light of the power differential inherent in the evaluation process. Often, cooperating teachers work with university-based supervisors, in what is commonly called the triad approach, to evaluate preservice teachers' progress, providing both formative and summative evaluative feedback.

Recently, there has been an increase in the implementation of co-teaching as a clinical model within teacher preparation programs. This model places more of an emphasis on shared leadership between the cooperating teacher and preservice teacher than does the aforementioned triad approach. There are several potential ways to implement co-teaching, each of which places the cooperating teacher and preservice teacher in different roles at different times.

The Importance of Cooperating Teachers

Research on preservice teacher preparation highlights the powerful impact that cooperating teachers can have on the development of preservice teachers. In fact, some scholars in the field of teacher education have described cooperating teachers as perhaps the most influential component of the teacher preparation process. Studies have illustrated that cooperating teachers influence not only the preservice teachers' developing knowledge and skills surrounding teaching but also the preservice teachers' attitudes and dispositions toward teaching. With this agreement regarding

the powerful impact that cooperating teachers have on teacher training comes a call for a closer examination of the practices and characteristics of cooperating teachers that will ensure that this influence leads to the development of knowledge, skills, and dispositions that contribute to effective teaching. Concerns exist related to the potential impact of cooperating teachers who are inexperienced, unprepared, or unsupported to serve as positive mentors to teachers-in-training.

Preparing and Supporting Cooperating Teachers

Even though there is consistent evidence regarding the importance of cooperating teachers within the teacher preparation process, literature documents a surprising lack of preparation and support provided to cooperating teachers. Although many agree that cooperating teachers should be regarded as important teacher educators, few institutions of higher education are able to invest the time or resources necessary to fully prepare cooperating teachers for their important role.

Studies indicate that the majority of professional development experiences provided to cooperating teachers focus primarily on the logistics of the clinical experience, such as timelines, schedules, and completing required forms and evaluations. Most agree that being an effective cooperating teacher requires different skills than those required to be a successful teacher of young children, and yet few teacher preparation programs provide professional development experiences that facilitate the development of skills needed by cooperating teachers to be successful in this role. The issue becomes even more complex as there is little consensus regarding the characteristics, qualifications, and skills required of effective cooperating teachers. Further, many studies indicate that cooperating teachers receive little ongoing support throughout the time that preservice teachers are placed in their classrooms. Experts in the field of early childhood teacher preparation call for increased attention to this matter, and some have developed and implemented more comprehensive professional development

programs in support of cooperating teachers. Many of these programs focus on helping cooperating teachers develop effective mentoring skills such as developing relationships with preservice teachers, active listening, providing feedback, and facilitating critical reflection.

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See also Clinical Experiences; Coaching; Early Childhood Teacher Education; Field Experiences; Mentors; Preservice Teacher Preparation

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COOPERATIVE LEARNING

Cooperative learning is an interactive, structured strategy used to group all levels of children in order to meet instructional goals. Rather than working independently, children are expected to work together to complete a task. Cooperative learning groups can be used in any content area. This approach can be built into a unit of study for many purposes and at any time. It is an instructional tool designed for a specific purpose; it is not a separate program. This entry discusses the reasons for using cooperative learning and the benefits and drawbacks of the approach.

An important workplace skill in the 21st century is the ability to work together. In cooperative learning groups, children learn to work with others toward a goal. They might discover that the finished product is a better representation of the task as compared to what could be completed by each child independently. This becomes an important lesson in interdependence. The child who draws well can illustrate a product, and the child who has understanding of language can insert sounds or words to describe the product.

This approach has both social and academic benefits. Cooperative learning groups may increase self-esteem, empathy, and responsibility in all children involved in the activity. Children learn to value and appreciate individual differences. They get to interact with many other children. Various cooperative learning structures used in a classroom provide opportunities for children to get to know other children better and begin to create relationships.

Academically, groups may be effective in helping children to acquire higher level thinking skills. More children are engaged in instruction using cooperative learning; therefore, the level of understanding, the amount of time on task, and academic achievement increase. Children begin to feel comfortable expressing their ideas and opinions. They observe a range of reasoning skills and perspectives. Brain-based learning reinforces that the child must be actively involved and doing something with the information in order to learn it. Children become more self-confident as learners, develop oral language skills, and scaffold their learning through conversation and visual organizers.

Spencer Kagan has been credited with designing specific cooperative learning structures. The structure or method of cooperative learning employed depends on the outcome the teacher hopes to achieve. A few of the strategies that teachers can use are jigsaw, numbered heads together, think-pair-share, or inside-outside circle. These specific strategies have different objectives and structures for the classroom. Potential roles in these structures may also vary depending on the objective of the lesson.

Cooperative learning groups can take many forms. The key idea for the group is for children to

move from receiving information to creating knowledge within the group. It is important that all children are accountable for the end product and are able to participate in the work equally. Groups typically average from two to six children with the ideal number being four. Children may be placed in groups randomly or assigned to a specific group based on the criteria of the task.

Within these groups, children might be assigned roles such as recorder, illustrator, or reporter. Each role must be modeled and practiced for children to become comfortable with the expectations. Teachers who rush the process or do not allow enough time to practice the roles may become frustrated by the experience and not wish to continue using this instructional approach. Initially, the teacher establishes the group and the tasks. As groups work, teachers become facilitators or guides to monitor progress and learning. As children become more proficient, the teacher can provide less direct support.

It is important for the teacher to dedicate sufficient time for children to become comfortable with the idea of working together toward a common goal. Children in this new situation should receive scaffolding from another peer or adult, to continually increase and develop new skills. A child who is shy or inhibited might be more communicative in a cooperative learning group but, conversely, could also lack the social competence to be able to work effectively as part of a group. It may be necessary to provide the support of an adult. A child who has the potential to be aggressive or forceful may need coaching in better ways to interact as a group member.

Once the children have learned the roles and procedures, a benefit for the teacher is that the strategies or structures can be used repeatedly in many content areas. Practice of new content can be distributed throughout a lesson. Additional benefits include the opportunity to gather ongoing, authentic assessment data through observation and evaluation of the final product, to teach social skills through actual engagement, to learn from each other, and to scaffold learning for all students.

Drawbacks of using this approach include the amount of time needed to teach and establish the roles and procedures for effective cooperative learning experiences. Extroverted children might take the opportunity to control the situation, whereas other children may sit back and be less engaged in the learning. A final product might not completely represent the ideas of the whole group.

Children need to reflect and analyze how well their groups are working in a developmentally appropriate way. Children should be able to determine how well they listened, if everyone had a turn, and ways that things could work better the next time groups are used. Children should also be able to talk about how they did if they had an assigned role in the group. Children need to discover the consequences of their participation or lack of participation in the cooperative learning group.

Cooperative learning groups can be used with discovery learning, with teacher-directed instruction, or to complete an assessment. Cooperative learning is a safe context for all learners to take risks. Multiple intelligences can be addressed through use of a variety of structures. The practices learned while working in a group can be transferred to lifelong interaction, collaboration, and communication skills for our ever-changing 21st-century world.

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See also Approaches to Learning; Developmentally Appropriate Practice; Multiple Intelligences; Prosocial Behavior; Social Skills Assessment; Social-Emotional Development

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COPARENTING

Coparenting refers to the extent to which parents work as a team with respect to raising a child. According to family systems theorists such as

Salvador Minuchin, families consist of interdependent parts, or subsystems, with the family “whole” being greater than the sum of its parts. For a family of three, family members participate in a number of dyadic (two-person) relationships (e.g., parent¹–child relationship, parent²–child relationship, parent¹–parent² relationship). The triadic (three-person) coparenting relationship between both parents and the child represents how both parents and the child function together. As such, coparenting represents the “executive subsystem” of parenting—meaning that it guides the whole family.

Just as coparenting impacts the entire family system, external forces can affect the coparenting relationship, as well. As described by Mark Feinberg in his model of coparenting, the coparenting relationship is built on qualities each parent brings to the relationship as well as the parents’ own family experiences. Thus, the coparenting relationship is both stable and open to change due to internal and external factors such as the developmental level of the child, family socioeconomic status, and culture.

Although coparenting research has often focused on families headed by a mother and father, coparenting is not exclusive to the traditional nuclear family. Coparenting can be applied to any individuals who share responsibilities for raising a child regardless of their biological relationship or living arrangement. For example, coparents could include two mothers or two fathers, a parent and extended family member, stepparents, foster parents, or adoptive parents. Even for single mothers and fathers, there is often another adult who helps care for a child. As such, coparenting is relevant to the lives of most children as most children are raised by more than one person.

Assessing Coparenting

Models of coparenting can be described as having four components: solidarity, undermining, support, and division of labor or shared parenting. The first, solidarity, is based on the level of agreement between parents on child-rearing beliefs and values. Sources of agreement or disagreement can range from discipline to nutrition, and from education to

chores. Coparents with high levels of solidarity grow together as parents, rather than apart.

Undermining is a parent’s hostility toward or criticism of the other parent. Parents who undermine are often displeased with their partner’s parenting techniques and may even ignore their partner. Undermining can be observed through competition between parents for the child’s attention or affection, and sometimes it can manifest through annoyance with a coparent.

Contrary to undermining, support can be instrumental or emotional. Coparents high in support appreciate their partner’s relationship with the child and are actively engaged when their partner takes the lead. In addition, supportive coparenting can also be seen through a genuine connection between parents with regard to parenting. Parents high in support are warm toward each other and reinforce one another’s techniques and directions.

Lastly, the quality of coparenting is reflected in a family’s division of labor. Parent satisfaction with the division of responsibilities that are associated with childrearing is an important indicator of the health of the coparenting relationship. Equality in terms of the amount of work is not as important as satisfaction with each parent’s responsibilities.

When Does Coparenting Begin?

For many families, the birth or adoption of a child marks the moment two people become coparents; however, important decisions are often already being made with regard to the child well before the birth or adoption (e.g., mother’s nutrition, labor and delivery plans, prenatal testing, and even discussions about the care of the infant). Although the transition to parenthood is fraught with many changes in the relationship between coparents, the behaviors of coparents during pregnancy can predict the postnatal coparenting relationship.

For nontraditional coparents, such as foster parents, stepparents, or grandparents, the coparenting relationship is established when the coparents begin sharing responsibilities for the child. Although the beginning of the relationship can be less clear, the development and quality of this relationship is no less important.

Why Is Coparenting Important?

Coparenting is important because, as predicted by family systems theory, it affects the child's social and emotional adjustment. A review of studies by Daniela Teubert and Martin Piquart in 2010 showed that supportive coparenting has been linked to more compliant behavior in children, whereas undermining coparenting has been linked with more frequent and intense externalizing child behavior problems. Moreover, the quality of the coparenting relationship appears to strengthen or weaken effects of other child and family characteristics on child development. The role of the coparenting relationship in the child's social and emotional development is best established during the child's early years; however, the coparenting relationship may play an important role in adolescent development as well.

In addition, research by Sarah Schoppe-Sullivan and her colleagues has shown that for different-sex biological coparents, the strength of the coparenting relationship often predicts father involvement. Because fathers bring unique qualities to parenting, and because children benefit from having fathers who are involved, it is important to recognize high-quality coparenting relationships as supportive of father involvement in childrearing.

Applications of Coparenting to Early Childhood Education

Urie Bronfenbrenner's bioecological systems theory expands family systems theory beyond the family to include additional contexts such as schools, child care, workplaces, neighborhoods, and culture. Broadening the system beyond the family offers an opportunity to see partnerships between other adults who care for children through the lens of coparenting, or rather, cocaring relationships. Sarah Lang's research on cocaring relationships between parents and teachers showed that these relationships have strong implications for child outcomes, just as the coparenting relationship does. Similar to how two parents coparent, parent-teacher relationships depend on communication and are affected

by support and undermining. The application of coparenting to parent-teacher relationships is a new area; however, it is an interesting extension of coparenting theory and it represents research that is gaining momentum.

*Theresa Settle and
Sarah J. Schoppe-Sullivan*

See also Family Structure; Family Systems Theories; Fathers; Mothers; Parenting Effects on Child Development; Parents as Teachers; Partnership Transitions

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CREATIVE CURRICULUM, THE

Based on child development and early education research, The Creative Curriculum is a comprehensive set of resources that explain the what, why, and how of teaching young children. There are three versions, each addressing a specific age group or setting: infants, toddlers, and 2-year-olds; preschool children (ages 3 to 5 years); and children who are cared for in family child care homes (birth through school age). The Creative Curriculum is widely used by the majority of Head Start and Early Head Start programs and by other child care, preschool, and prekindergarten programs in every state. It is linked to an online, authentic assessment system with high validity and reliability. This entry describes the philosophy and research that underlie the curriculum, the organization of the curriculum, the way it promotes inclusion, the daily practice resources that support teachers at all levels of experience, the link between assessment and curriculum, and the

research that shows the validity of the assessment system and the effectiveness of the curriculum.

Philosophy

The philosophy of The Creative Curriculum reflects the principles of developmentally appropriate practice defined by the National Association for the Education of Young Children in its 2009 position statement. This means teaching in ways that reflect the way children develop and learn best. Best practices are based on knowledge about child development, the individual characteristics of each child, and cultural and family influences.

The preschool and family child care versions of the curriculum explain the practical implications of five fundamental principles derived from major child development theories and research: Positive interactions and relationships are fundamental to children's learning and development; social-emotional competence is a significant factor in school success; children learn best through constructive, purposeful play; the physical environment has a profound impact on children's behavior and learning; and partnerships with families support children's development and learning. The version for infants, toddlers, and 2-year-olds also helps teachers address the critical aspects of early care and education identified by major theories and research: the importance of meeting children's basic needs, fostering social-emotional development, developing relationships, and supporting cognition and brain development.

Curriculum Format

Since the first edition was published in 1978, The Creative Curriculum has helped teachers understand the importance of creating a dynamic and well-organized environment as the setting for effective teaching and learning. Current editions of all three versions of the curriculum provide resources that offer teachers the knowledge they need to work purposefully with young children and to be responsive and flexible in their interactions. Each set of resources begins with a foundational volume that summarizes the underlying

research and theory, and each follows a consistent framework with the following five components:

1. How children develop and learn
2. The learning environment
3. What children are learning
4. Caring and teaching
5. Partnering with families

In the preschool version, the five components are applied in the 10 classroom interest areas and the outdoors. In the versions for infants, toddlers, and 2-year-olds and for family child care, the components are applied during daily routines and purposeful play experiences. The preschool version also includes knowledge-building volumes that provide comprehensive information and guidance for effectively teaching language and literacy, mathematics, science, social studies, and the arts. The sets for preschool and for infants, toddlers, and 2-year-olds include a volume titled *Objectives for Development & Learning: Birth Through Third Grade*, which explains 38 objectives that identify the skills, knowledge, and behaviors most predictive of school success. These objectives are the focus of all experiences teachers plan as they implement The Creative Curriculum, and they are the basis for the assessment system, GOLD by Teaching Strategies.

Daily Practice Resources

With the publication of the fifth edition of the preschool curriculum in 2010, a new set of daily practice resources was added to offer teachers at all levels of experience more explicit guidance on what to teach and how. Teaching guides provide daily guidance and feature studies, which are engaging, long-term collaborative projects that help children integrate content learning. Intentional Teaching Cards support teachers in planning small group, large group, and individual experiences that focus on language, literacy, mathematics, social-emotional, and physical skills. For the in-between, transitional times of the day, a set of 100

small cards called Mighty Minutes gives teachers easy access to songs, chants, rhymes, games, and other short activities that make every minute of the day a learning opportunity. Book Discussion Cards guide teachers through three read-alouds of storybooks with complex plots, providing suggestions for introducing the story, commenting on the characters, and asking probing questions.

In 2015, daily resources for teachers and providers who care for infants, toddlers, and 2-year-olds were published to provide more support for responsive and intentional experiences. In addition to Mighty Minutes for this age group, the resources include Intentional Teaching Cards that present teaching sequences for offering learning experiences for infants, toddlers, and 2-year-olds. Book Conversation Cards provide guidance for interacting with very young children while reading books in the *Highlights Hello* collection (now part of the curriculum). *Highlights Hello* offers stories, poetry, and other language activities for children from birth through age 2 to enjoy with adults.

An Inclusive Curriculum

Early childhood classrooms today are increasingly diverse, presenting teachers with opportunities to create inclusive classroom communities and challenging them to meet children's widely varying strengths, interests, and needs. The Creative Curriculum provides information and practical strategies for adapting experiences and instruction to ensure that all children, including dual language learners and those with disabilities and developmental delays, can participate fully and benefit from the program.

Researchers such as Linda Espinosa have shown that helping children build a solid foundation in their home language is critical for two reasons: (1) Children are able to retain a sense of cultural identity and remain attached to family traditions, customs, and elders; and (2) children who acquire concepts and skills in their first language are able to transfer that knowledge to acquiring a second language. While supporting families in continuing to promote their children's first language, teachers need to know how children

develop a second language and how to teach concepts and skills to children who do not yet understand the language of instruction.

The Creative Curriculum explains the developmental sequence of second-language acquisition so teachers know what to look for at each stage. Specific strategies for promoting the learning of English are embedded throughout all curricular resources, including social-emotional supports (such as establishing and following regular routines and developing positive and warm relationships with children and families), integrating children's home cultures and family practices into everyday routines and experiences, adaptations to the environment (such as labeling materials and charts in English and the children's other home languages and including literacy materials that reflect children's cultural and linguistic backgrounds), combining nonverbal communication with speech, learning a few words in the children's home languages, and reading books with simple illustrations that provide visual clues about content.

Including children with disabilities in all classroom experiences is not only good practice, it is the law. Teachers should receive specialized support for meeting the specific needs of an individual child. The Creative Curriculum provides information about children with disabilities, offers strategies, and suggests ways to modify the environment when necessary. Strategies include practices such as maintaining a well-organized and clutter-free environment that provides structure and predictability, using picture sequences to illustrate the daily schedule and routines (such as washing hands), preparing children before a transition by explaining what to do, pairing a child with a buddy for an activity, selecting toys that are easy to manipulate (such as puzzle pieces with knobs), and helping children communicate by using gestures and pictures.

Connecting Assessment and Curriculum

To support children's learning, early childhood teachers must be able to adapt instruction to fit each child's development levels. Young children develop

at very different rates and have had very different life experiences. Ongoing, observation-based assessment, structured by a valid and reliable assessment tool, enables teachers to learn about each child's strengths, needs, and interests and to individualize their interactions and instruction.

The Creative Curriculum is linked to an authentic, observation-based assessment system, GOLD. Both the assessment system and curricular resources focus on the same 38 objectives that address all areas of development and learning (social-emotional, physical, cognitive, language, literacy, mathematics, social studies, science and technology, the arts, and English language acquisition). Both resources show the developmental progression for each objective, clearly delineating the predictable sequences of typical child development from birth through third grade. The progressions also identify research-based, widely held expectations for each age group, thereby helping teachers and families identify realistic expectations and illustrating that, even within the range of typical development, children progress at very different rates.

To offer even more support for individualizing instruction, GOLDplus by Teaching Strategies was introduced in early 2015. Used with the GOLD assessment system, GOLDplus enables teachers to use technology to integrate curriculum and assessment. Flexible planning tools are linked directly with assessment data and with electronic versions of curricular resources. For example, when preliminary or final checkpoint data are entered in GOLD, the teaching sequences for Intentional Teaching experiences (electronic versions of the Intentional Teaching Cards included in the curriculum) automatically populate with children's names. These sequences give teachers starting points for individualizing instructional activities to match each child's level with regard to targeted developmental objectives. Additional features include a searchable digital resource library; automatically generated class profile reports; digital "Individual Care Plans" for infants, toddlers, and 2-year-olds; digital family information forms; and a family portal for sharing resources. Preschool programs that use GOLDplus also have the option of accessing

digital resources and learning supports that include research-based media elements from Sesame Street that relate to curricular objectives.

Research

Independent researchers examined the effectiveness of The Creative Curriculum for Preschool during a 2-year study. Although no statistically significant impact was found when the scores of children in control classrooms were compared with the scores of children in classrooms using The Creative Curriculum for 1 year, researchers found statistically significant positive impacts on children's achievement in literacy, mathematics, and spelling when comparing the scores of the control group with those of the treatment group in the second year of The Creative Curriculum implementation. The results of this study suggest that teachers who had more time with The Creative Curriculum were able to increase their effectiveness. Children in classrooms where The Creative Curriculum was not used did not show the same gains in literacy and mathematics.

Several independent research studies have explored the reliability and validity of the GOLD assessment system. The studies involved large, diverse samples of children attending Head Start, private child care, and school-based programs in all areas of the United States. Results indicated that GOLD is a valid and reliable assessment tool.

In another study completed in 2013, researchers followed the educational progress of a nationally representative sample of 11,820 children ages 3 and 4 in programs that used both The Creative Curriculum and GOLD during one academic year. After 1 year, the percentages of 3-year-old children who met or exceeded the GOLD widely held expectation for each area ranged from 71% for mathematics to 91% for the areas of cognition and literacy. For 4-year-old children, the percentages ranged from 60% for mathematics to 83% for physical development.

The widespread use of The Creative Curriculum and GOLD makes it especially important to continually evaluate the effectiveness of both

and to determine whether their implementation promotes positive outcomes for children. Ongoing research, the addition of new curricular resources, and the use of technology that enables teachers easily to link curriculum and assessment as they plan instruction continue to enhance the quality of early childhood programs.

Diane Trister Dodge

See also Authentic Assessment; Curriculum and Early Childhood Education; Developmentally Appropriate Practice; Diversity in Early Childhood Education; Dual Language Learners; Early Childhood Inclusion; Intentional Teaching

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CREATIVITY

Creativity is the process by which original, high-quality, and genuinely significant products are developed. Creativity in young children focuses on the process of developing original ideas—the potential from which products can emerge. Creativity is distinct from intelligence or talent and is critical to complex problem solving. Fostering creative potential in young children provides the developmental pathway to problem solving. Without attention to encouraging fluency and originality in young children, the potential for advanced creative thought and products may be inhibited. For many, defining creativity necessitates three developmental considerations: original (a process seen in young children), high-quality (workable solutions evidenced in older children and adolescence), and genuine significant products (contributions to society as judged by adult societal standards). This entry first explains what distinguishes creativity from other cognitive traits before discussing the developmental course of creativity. It then discusses ways of promoting originality in young children, correlates of creative potential, and how the development of creative potential leads to the generation of ideas and creative problem solving.

Distinguishing Creativity

Creativity is distinct from what is typically considered to be “intelligence” or “talent.” The distinction between creativity and intelligence has been best characterized in the classic work of J. P. Guilford that distinguished between convergent and divergent thinking. Convergent problems generally lead to one “right” answer, whereas divergent problems promote the generation of multiple possible solutions, some of which may be novel and original. The very nature of difficult problems for older children and adults suggests that the first answer that comes to mind is often not the solution, and thus the process of voicing multiple ideas (fluency) is often required to yield unusual ideas (originality) to address the issue at hand. Most

measures of “intelligence” or cognitive abilities lend themselves to convergent modes of thinking in that a specific response is anticipated to be the “correct” answer. “Talent” is evidenced by superior technical skills in a specific area of expertise. Talent, though often associated with the “creative arts” is by no means limited to such activities. Often a talented individual needs highly honed skills to begin using them in an original and novel (i.e., creative) way but talent, itself, does not guarantee that. Neither intelligence nor talent—often considered to be components of being labeled as “gifted”—guarantee that one is creative. Both intelligence and talent may provide a basis that facilitates the expression of creativity but, to be creative, characteristics need to be applied in an original or usual manner.

Developmental Trends

Young children evidence creative potential rather than true creativity if one applies the standard that from the original ideas emerge products that are genuinely significant. Nonetheless, the predilection for fluency and originality is often set in the early years, and the expression of these necessary precursors to creativity can be encouraged in young children. Young children are active scientists as they look to make sense of their world: asking questions, developing theories, exploring ideas. The focus at this stage of development is on process rather than on products. Products tend to emerge later in the developmental sequence and often from the application of an idea to a problem. For quality products, some level of skill is often required as well as originality. An emphasis on products too early in the developmental sequence may squelch the inclination to explore ideas. There exists evidence of a decline in originality on ideational fluency tasks as children move from the early years to middle school. It has been postulated that this decline is the result of a growing emphasis on convergent thinking in the middle grades with testing and a “right answer” orientation being more prevalent, as well as a function of the emerging conformity of middle childhood such that standing apart from one’s peers tends to be less

socially acceptable. This decline in the number of original responses generally lasts through middle school and high school. With young adulthood the percentage of original responses begins to increase to parallel the percentage of original responses generated by young children.

Promoting Originality

Creativity can be developed and encouraged through deliberate action. Ellis Paul Torrance's seminal work focused on the relationship between ideational fluency and originality. This relationship has important implications for early education practice. Originality is a product of exploration and fluency. Fostering original responses in young children often involves enabling sufficient time for the more original responses to emerge or additional prompts such as "what else can you think of." The hierarchy of responses tends to move from the common to the unusual. In adults, brainstorming is linked to fluency and the length of responding tends to drive out more responses. If a child is asked to state all the things he or she can think of that are red, the early responses generated tend to be concrete objects such as "an apple" or "a wagon" or "a crayon." As the number of responses in a given child increase, more unusual responses such as "chicken pox" might emerge. Note that the originality of ideas is also linked to context—"chicken pox" may be highly unusual for most 4-year-olds but also may emerge as a typical response in the middle of an epidemic or local outbreak. Allowing time for exploration is also important as young children interact with material or objects in their environment. As children explore objects, they move from thinking about "what can this object do" to "what can they do with the object." The latter question enables different and more original uses to emerge. Thus, providing the time for exploration coupled with the use of open-ended questions—those that encourage more than a single answer—promote fluency and thus originality.

Correlates of Creative Potential

There is ample evidence that a number of personality, cognitive, and contextual factors influence

the expression of creative potential in young children. Expression of these characteristics is influenced by the significant persons in the child's life such as parents and teachers. Children who exhibit creative potential engage their surroundings. They explore objects and material and do so for extended periods of time. The transition from playing with materials to exploring objects or material requires persistence and time. Children who exhibit more originality tend to be more intrinsically motivated and operate on their own time clock. Internally controlled children are less motivated by external factors and the approval of others for the quality of their output. Limiting the time a child has with a task runs the risk of limiting the potential for increased fluency and originality. The process of creativity at this stage of development derives more from the intrinsic process of discovery rather than reliance on the external evaluation of others or tangible rewards. Curious young children also exhibit more creative potential. That curiosity helps feed exploration and engagement. Curiosity in many ways expands the knowledge base of a child that he or she can bring to looking for original ideas. Nathan Kogan's work on metaphoric reasoning helps demonstrate that those individuals who could make more distant and less typical connections between issues and ideas demonstrated better creative problem solving. These remote associations promote originality. Fantasy and imagination do much the same. The child who plays with mental imagery is less bound to the traditional ways of looking at things and can more readily envision the possible. These characteristics are tied to the ability of children to move outside of the generally accepted norms. Nonconformity is often seen as a critical component of creative potential. The nonconformist is less concerned about the evaluations of others and thus is more likely to stretch the bounds of the possible. On the other hand, nonconformity for the sake of being different is not the same as being comfortable with "thinking outside the box" or "drawing outside the lines." Children who take such risks must be provided with an environment that accepts risk-taking. Proposing original ideas always involves risk, and

that is where the focus on internally driven satisfaction rather than externally derived rewards plays a critical role. In addition, children with creative potential show a propensity for a willingness to try the difficult—to try something new without a guarantee of success. Original problem solving by its very definition means moving outside of the well-established patterns of performance. Acceptance of a level of uncertainty speaks to the characteristic of ambiguity tolerance. As creativity emerges, the pathway is often not well laid out and the route to the solution is not evident. A tolerance for ambiguity is required in dealing with what are labeled heuristic tasks in which the route to the solution is not immediately evident. If others in the lives of young children lack such tolerance, the creative potential of the child will often be squelched because that child will not find viable opportunities for the self-expression that underlies creative thought.

Beyond Creative Potential

Creativity, within the early childhood education context, is more appropriately identified as creative potential with the emphasis on the process of facilitating ideational fluency (the generation of ideas) and originality (the generation of atypical and nonnormative ideas). A more mature definition of creativity includes original ideas that are of high quality and contribute to addressing a significant societal critical issue or problem. For younger children, the emphasis is on process rather than on product as a precursor to what will be. A focus on product too early in the development of creativity (i.e., incorporating a process that inevitably entails an external evaluation) runs the risk of limiting the child's confidence in practicing ideational fluency and originality. The development of creative potential in early childhood leads to more effective creative problem solving as the child gets older.

Creativity is not limited to the "creative arts" but rather is evidenced throughout society. Effective problem solving for the complex issues that adults so often grapple with relies on ideational fluency. The generation of a wealth of ideas increases the chances that an issue can be viewed from multiple

perspectives, enhancing the odds of successful resolution. One of the advantages of a diverse group in a team problem-solving session is that those individuals with different experiences, cultural backgrounds, traditions, and societal views can contribute original ideas to the process. Creativity enables movement from the normative to the possible—from what is expected to what can be.

Jim Moran

See also Child Development and Early Childhood Education; Convergent and Divergent Thinking; Curiosity; Differentiation; Gifted Education; Intellectual Assessment

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CRIME, EARLY CHILDHOOD EDUCATION AND

Numerous studies of high-quality early childhood education (ECE) programs have found they led to a reduction in crime or led to other outcomes linked to a decrease in criminal behavior. These programs can lead to less abuse and neglect, fewer

behavior problems, better performance in school, fewer high school dropouts, and, ultimately, fewer crimes committed and a reduction in the number of prisoners. This entry summarizes the research linking ECE and crime reduction.

ECE Contributions to Crime Reduction

There is a well-documented relationship between education and crime. According to a U.S. Justice Department report from 2003, seven out of ten state prisoners do not have a high school diploma. Economists who studied the relationship over time between changes in graduation rates and crime concluded that a 10 percentage point increase in graduation rates reduces murder and assault rates by about 20%. One of the best ways to keep young people from dropping out of school and becoming criminals is to make sure they have a foundation for success in their earliest years. Research has demonstrated that high-quality ECE can result in more successful outcomes, culminating in a reduction in crime and incarceration.

Less Abuse and Neglect

The Chicago Child-Parent Centers (CPC) is an ECE program that has served more than 100,000 children and followed a sample of them up to age 28. This program also coaches parents to help them understand their children's health needs, create safer home environments, and develop parenting skills. CPC cut child abuse and neglect (reports to child protective services) in half for the children served, compared to similar children from families not being helped.

Fewer Behavior Problems

An independent evaluation of Pennsylvania's Pre-K Counts public-private partnership found that the program cut the portion of 3-year-old children at risk for problematic social and self-control behavior from 22% to 4%. (At-risk status was defined as scoring above the cutoff on the behavior scale of the Basic School Skills Inventory-3.)

School Readiness

Boston's universal prekindergarten program improved mathematics, literacy, and language skills among participating children equivalent to 7 months of additional learning, compared to children who did not attend. Other states' ECE programs have also reported important improvements in school readiness.

Better School Outcomes

Researchers who studied New Jersey's preschool program, which serves disadvantaged school districts statewide, found that by fourth and fifth grades, children who attended the program were 31% less likely to be placed in special education and were held back a grade 40% less often than a control group. Participating children were also three fourths of a year ahead of the control group in math and two thirds of a year ahead in literacy.

Fewer Dropouts

Researchers have found that participants in the Chicago CPC pre-K program were 29% more likely to graduate from high school by age 20 than similar children not enrolled in the program. Other researchers found participants in Michigan's Great Start Readiness program were 35% more likely to graduate from high school and those who attended the Perry Preschool program were 44% more likely to graduate from high school.

Less Crime

Children *not* served by the Chicago CPC program were 70% more likely than participants to be arrested for a violent crime by age 18. By age 27, children *not* served by the Perry Preschool program were 5 times more likely than participants to be chronic offenders with five or more arrests.

Fewer Prisoners

By age 24, those who participated in the Chicago CPC as children were 20% less likely than nonparticipants to have served time in a jail or prison. By age 40, the children served by the

Perry Preschool program were 46% less likely than nonparticipants to have been sentenced to prison or jail.

In sum, childhood abuse and neglect, insufficient preparation for school, unaddressed behavior problems, poor academic performance, and dropping out of high school all can lead to criminal behavior. School readiness, the ability to get along with others, academic achievement, and graduating from high school all help individuals lead more successful lives. One reason certain states have increased their investments in ECE in recent years is because of the findings indicating that it is a way to reduce crime.

Economic Benefits of ECE and Crime Reduction

To obtain lasting results, including reductions in crime, ECE programs must be high quality. Programs need to have qualified teachers and program results must be rigorously measured in order for even stronger results to emerge. Research has shown that the investment in ECE brings a net benefit to society. A cost-benefit analysis by the Washington State Institute for Public Policy of more than 20 different studies of state and district ECE programs showed a return of, on average, a “profit” (economic benefits minus program costs) to society of over \$26,000 for every child served. These economic benefits accrue largely as a result of reductions in the cost of future crime and increases in participants’ future wages as a result of graduating from high school.

Natasha O’Dell Archer

See also At-Risk Families; Child-Parent Centers; Early Childhood Research and Policy Linkages; HighScope Perry Preschool Study; Incarcerated Parents, Children of; State Policy Making

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CRITICAL THEORY

Critical theory developed from various ideas emerging from the Frankfurt School of Critical Social Theory in the late 1930s. It is part of a wider intellectual tradition that critically engages with Marxist concepts and other philosophical traditions. It is grounded in a vision of a democratic society in which people live together in ways that are generous, compassionate, and socially just. It is considered a sociopolitical theory because it is concerned with issues of power and oppression. In particular, critical theory is interested in how economies, race, social class, sexuality and gender, abilities, age, education, religion, and other institutions interact to

construct a social system. Critical theory is relevant to the field of early childhood education because it assumes that education is a social and political activity that affects the life chances (both positively and negatively) of children involved in it. This entry explains critical theory and its purpose in education and then gives examples of how various elements of critical theory come into play in the early childhood classroom.

Critical theory offers teachers a range of conceptual tools to consider how power operates in education in relation to knowledge and authority. Most importantly, educators use these tools to question taken-for-granted assumptions (or ideology) the field holds true about teaching, learning, childhood, and curriculum. Critical theories view all beliefs, values, and realities within their social and political contexts. By asking hard questions such as “Who gains and who loses in this classroom from seeing things in particular ways?” or “Who would gain and who would lose if an alternative view were accepted?” critical theory sets out to locate and understand inequalities and oppressions. By uncovering whose values and knowledge perpetuate particular truths about early childhood education, a critical perspective believes that it then becomes possible to create more inclusive and socially just forms of curriculum.

An aim of critical theory is to critique *and* change society. This is different from other social theories because they aim to understand and explain society, not transform it. In this sense critical theory is considered radical, emancipatory, and a theory for change.

In the field of education, Paulo Freire (1921–1997) is considered a central figure in the development of critical education and is often associated with critical theory. He was a Brazilian educator who taught peasant farmers to read and to understand how the power structures of the dominant society worked to oppress them. He was devoted to education that would improve the lives of marginalized groups of people.

Freire used the term *banking education* to describe and critique traditional educational systems that rely on a transmission model of teaching and learning.

This kind of model assumes that students are empty vessels into which teachers deposit knowledge. A banking model of education lacks critical thinking and fails to recognize the knowledge and strengths that students bring to the classroom. As a result, this kind of education reinforces the status quo and reproduces oppression. Freire and critical theory advocate for a kind of education that positions teachers as intellectuals and change makers.

To do this transformational work, critical early childhood educators must first become conscious that their own thinking and the traditional early childhood curriculum that they have enacted are limited and oppressive. By drawing from Freire’s work, teachers can place themselves and their values and beliefs within social, cultural, historical, and philosophical frameworks. This allows teachers to gain a sense of how different groups of people (e.g., girls, boys, single mothers, Indigenous children and their families, low socioeconomic status [SES] families, second-language learners, children with additional needs) are situated within the wider world in general and the early childhood classroom in particular. This image of a teacher is not that of a technician who simply follows the instructions of others. Instead, a critical educator is an intellectual, who is aware of social issues and how they are working in complex ways to marginalize particular groups of people while benefiting others. However, a critical educator does not stop at becoming aware of these issues. Instead, a critical educator names these inequities, critically reflects on them, and then acts.

Critical theory teaches us that education is always political and that teachers are part of this process. Education can be transformational, but it can never be an individual process. Therefore, critical educators must build alliances with others (colleagues, families, students) to reconstruct new knowledge together.

How Critical Theory Comes to Life in the Early Childhood Classroom

Early childhood teachers use concepts that come from critical theory to think about, negotiate, and

transform the relationships between teaching, learning, and power. In particular, critical theory provides teachers with conceptual tools to consider how power operates in the early childhood classroom in relation to knowledge and authority.

Some examples of these conceptual tools and how critical theory comes to life in the early childhood classroom include the following.

Praxis

Praxis is the reciprocal relationship between theory and practice. The theory building and critical reflecting that teachers do with others (children, colleagues, families) constantly inform how they think and what they do. These practices and actions generate more theory building and critical reflection, as seen in this scene, based on a real classroom:

An early childhood teacher enters her classroom with the belief that all children should be able to choose where they want to play during free-choice time. She notices that the boys always go to the Lego center and wonders why none of the girls ever go to play there. After talking with the girls, she discovers that the boys always pick this center to play at first, they stay there during the whole center time, and when a girl does get a chance to play there it is “too noisy and loud.” The teacher decides to change the classroom rules. Instead of giving children free choice of where they will play, she decides that twice a week only girls will be allowed to play at the Lego center. The teacher begins to wonder how other classroom rules and practices might be benefiting some groups of children while excluding others.

Problem-Posing

Problem-posing is central to critical teaching. Critical educators use a range of teaching methods and strategies for asking questions that reflect real issues in children’s lives. It can make teachers uncomfortable because it attempts to ask hard questions and offer real solutions. These solutions then generate new practices:

When the teacher realized that free-choice time was not so “free” for some groups of children (the girls) she decided to change the classroom rule to provide girls the opportunity to play in the Lego center. After trying this out for a week, she held a class meeting to discuss the problem, why she thought it was a problem, and to find out more about what the girls and boys in the class thought about the problem and her solution. She wanted to create a space in the curriculum for the children to come up with solutions and to make links with other aspects of classroom life that might seem unfair. After a productive discussion about the problem of only boys going to the Lego center, the boys being noisy and unfair to the girls who went to the center, and her failure to enforce the classroom rules for the boys, the class came up with some interesting solutions. By bringing the Lego problem to the class, the teacher uncovered more issues about fairness in relation to Legos. She found out that the girls did not think it was fair that Lego made Lego pieces “mostly for boys.” A group of the girls decided to write a letter to Lego asking why the company makes fewer Lego girl figurines than boy figurines. The teacher highlighted the class meeting in her weekly newsletter and encouraged families to ask their child more about it and to talk about issues related to fairness.

Hegemony

Hegemony is a term associated with the Italian Marxist political economist Antonio Gramsci (1891–1937). Hegemony is the domination of one group over another with the partial consent of the dominated group. Hegemony exists on both macro and micro levels. Gramsci believed that the process of hegemony is pervasive and infiltrates all aspects of life. It is lived out in the early childhood classroom.

After observing the play for 4 weeks at the Lego center, the teacher noticed that the boys were usually the group of children who played there. On the few occasions when the girls did go to this center, they would only stay for a few minutes.

The teacher realized that the girls did not engage with complex building or problem solving because they never had a chance. The boys would often make fun of the girls' work, take pieces of Lego away from the girls, or hide Lego pieces from the girls. When the boys got excited with their own building and started to get loud, the girls simply got up and left. The teacher then started to wonder what part she might play in the boys' behavior and ultimately in the girls' lack of play opportunities with Legos. To her dismay, she realized that she never asked the boys to "settle down" because they might be disturbing others. It seems as though she accepted this kind of "boy" behavior as "normal" and never questioned or stopped it.

Hidden Curriculum

The *hidden curriculum* is a term used to describe the unarticulated and unintentional messages that children receive while taking part in everyday classroom activities that make up the early childhood curriculum. Although it is happening everywhere and all of the time, the hidden curriculum is covert and difficult to see. Because it is hidden, the curriculum conveys attitudes and values implicitly to children. Hegemony supports the hidden curriculum, and it is often exposed through problem-posing.

When children are allowed to "freely" choose a center to play at during free play time, they are learning that particular groups of children get more choices than others. For instance, all of the children are learning that boys get to be louder in the classroom than the girls, that boys get more chances to play with Legos than girls, and that girls' Lego play is not as important as the boys' Lego play. In short, they are learning that the classroom is fairer for some groups of children and not others.

Mindy Blaise

See also Anti-Bias Education, Components of; Anti-Bias Education Theory; Bias; Development of Prejudice; Gender Diversity; Postmodernism; Teacher Beliefs

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CULTURAL AND LINGUISTIC RESPONSIVENESS

Migration between and within countries has increased dramatically in the past few decades around the world. More people leave their communities in search of a better life for them and their children; they are escaping poverty, leaving political instability and violence, or being recruited for their skills and talents. There also are large numbers of indigenous communities in many countries whose cultures and languages are different from the mainstream or dominant culture and language. They are struggling to maintain or revitalize their languages and cultures of origin. As a consequence, millions of children are growing up in communities characterized by increased cultural, ethnic, and linguistic diversity. This entry discusses early childhood care and education in multilingual and multicultural societies, bilingualism, and issues of quality and equity in early education.

Some authors, such as Jan Blommaert and Steven Vertovec, are using the term *super-diversity* to refer to the complexities of diversity in the globalized societies of the 21st century. They propose that diversity should not be defined only in terms of ethnicity, as is usually the case among social

scientists, policy makers, and practitioners, but that the term should involve characteristics of the migrant populations and their experiences to fully understand the diversity within these diverse population groups, such as their migration histories, employment experiences, and access to services, among others.

Children in these migration-driven diverse communities usually grow up in environments in which their families speak a language other than the one spoken by the host country or community, usually referred to as a “minority language.” For these children and their families, schooling, health care, and other social services, as well as employment, usually occur in the mainstream or dominant language, which often becomes a barrier for families to access those services. For their young children, growing up in two worlds has the potential to be a negative experience, associated with school failure. National statistics and evaluation studies conducted in the United States (e.g., by Kathryn Lindholm-Leary and Graciela Borsato), Latin America (e.g., by Arlette Beltrán and Janice Seinfeld), and Europe (e.g., by Asako Ohinata and Jan C. van Ours) indicate that children of immigrants and migrants from minority-language backgrounds have lower school achievement than those who speak the dominant language as their only or primary language. One factor that can help explain this outcome is the strong association between poverty and minority-language status.

Another factor can be the inadequacy of an educational system designed with middle-class, monolingual children in mind and thus not responding to the characteristics of culturally diverse, emergent bilingual children. The unique experiences of bilingual children, who are growing up in socially complex community and family contexts, will determine particular pathways in their development and learning processes. Therefore, early care and education offered to them should be tailored to address their specific characteristics and needs. Both the sociocultural context and children’s bilingualism should be taken into consideration when developing policies and implementing practices for bilingual/bicultural children.

Bilingualism and Children’s Development

Research has confirmed that bilingualism affects children’s cognitive, language, literacy, and socioemotional development in particular ways. Furthermore, in recent years neuroscience research, conducted by Barbara Conboy and others, has shown that bilingualism generates changes in both brain function and structure. Regarding language development, for example, a review of studies with successive and sequential bilingual children by Carol Scheffner Hammer and colleagues has indicated that there is considerable variation in their rate and patterns of development and that this variation is often associated with the age of onset of second-language acquisition and the amount and quality of exposure to each language. Similarly, the cognitive advantages of bilingualism have been well established in the research literature, specifically in the areas of executive function, and the advantages are larger in children with advanced skills in their two languages, according to a review conducted by Raluca Barac and colleagues. Wen-Jui Han reported differences in socioemotional development have been found between bilingual children and their monolingual English-speaking peers, with bilinguals obtaining higher scores on measures of self-control, interpersonal skills, and fewer internalizing and externalizing behaviors.

There is a tendency to treat bilingual children as two monolinguals in one, and, in spite of the research evidence, educational policies and instruction tend to focus only on one of these children’s languages, the dominant language. When policies and practices ignore children’s bilingualism, “they perpetuate inequities in the education of these children. That is, they discount the home languages and cultural understandings of these children and assume their educational needs are the same as a monolingual child” (Garcia, Kleifgen, & Falchi, 2008, p. 6).

Defining Quality of Early Education Practices

High-quality early education has contributed to reduce the school readiness gap for children from

racial/ethnic minority groups who live in poverty (Bowman, Donovan, & Burns, 2001). In fact, reviews of the research literature have found that what is considered high-quality education for monolingual children is beneficial for bilinguals; however, that alone is not enough for bilingual children to perform at the same levels as monolinguals, states Claude Goldenberg. This indicates that there is a need to identify additional instructional strategies or modify current practices to make them appropriate and effective for bilingual/bicultural children.

The notion that without equity, the goal of offering children high-quality early education experiences cannot be reached should be at the forefront of the discussion on quality in early care and education. Equity is not about treating all children in the same way or exposing them to the same activities or using the same instructional practices. It is about acknowledging children's characteristics, by designing educational experiences that build on children's prior knowledge and ways of knowing, and valuing what they can contribute from their own perspectives. Therefore, the definition of quality cannot be static; to the contrary, it should be flexible and dynamic. How indicators of quality are operationalized and those that are relevant indicators of quality may change depending on the attributes of the communities where programs are being implemented.

In the past 15 years, the emphasis on accountability in early education has grown in the United States, as it has in other countries. Federally funded programs such as Head Start developed the Head Start Child Development and Early Learning framework, and most states now have quality rating and improvement systems (QRISs) for early care and education. The Head Start Child Development and Early Learning framework includes a section dedicated to dual language learners (i.e., emergent bilinguals), and, as documented by the BUILD Initiative, there is great variability in the approaches used by states' QRISs to assess whether the care and education needs of children from diverse ethnic, cultural, and linguistic families are being met. The main challenge faced by states is the absence of a definition of

what constitutes high-quality early education practices for bilingual/bicultural children.

One proposal is that the provision of an early education that is culturally relevant and linguistically appropriate for emergent bilingual children requires a holistic, intentional, and systematic approach and should include the following elements. First, program leadership and decision-making processes should support development of children's two languages, such as hiring bilingual/bicultural teachers and program staff and implementing bilingual intercultural education programs. Second, prepare professionals and offer ongoing professional development for teachers to acquire pedagogical and content knowledge and skills for working effectively with bilingual and culturally diverse children. Besides content knowledge, teachers should have beliefs about bilingualism and interculturalism that promote development and learning, as well as dispositions that are strengths-oriented. Third, develop and implement a curriculum that goes beyond respect and celebration of the "other's" cultures and reflects children's worldviews, beliefs, values, and experiences. The social organization of learning in the classroom should honor children's participation in intercultural experiences that are integral to the shared practices of their community, using children's cultures and languages as resources for learning. Fourth, establish partnerships with families and communities to facilitate learning about children, families, and their experiences and ways to support them at home and in school. Child-rearing beliefs and practices vary across cultures and will influence the ways that children are socialized in their families. Learning about those beliefs and practices will help in the process of making the curriculum culturally relevant. Also, gathering information about parents' expectations and goals for their children's bilingual development will be essential to inform classroom practices.

New Challenges

Increasing diversity within diverse populations presents the field of early education with new challenges. For instance, while efforts are emerging to

provide high-quality early education to bilingual/bicultural children by promoting models of care and education that support the development and maintenance of children's two languages, a new challenge is the multilingual and multicultural composition of communities and, hence, of classrooms. It is becoming more common to find classrooms where several different home languages are spoken. How could the development of bilingual children's two languages be supported in a multilingual environment? The research literature is very limited on this topic. Recommendations are made from experiences in the field that have not been evaluated yet, or they come from research conducted with older children. Some of those include exposing children to different languages and cultures through music experiences, labeling the classroom with different home languages spoken (using different colors for each language or using different languages on alternate days or weeks), and making books available to the children in different languages and reflecting diverse cultures. In addition to exposing children to home languages, sheltered instruction strategies could be used to assist with teaching new vocabulary and comprehension of content for all children whose first language is not the language of schooling. They include the use of visual aids, such as props, pictures, and graphic organizers, as well as gestures, body movement, and hands-on activities to demonstrate concepts, as Goldenberg and colleagues suggest. Multilingual and multicultural classrooms offer a great opportunity for children to learn about languages and cultures that differ from their own and to develop a multicultural identity that will make them the global citizens of the future. More research is needed that will help identify teaching principles and strategies that will ensure equitable access to content and supports for learning for all children in the new "super-diverse" early education programs.

Dina C. Castro

See also Anti-Bias Education, Components of; Anti-Bias Education Theory; Bilingual Families; Cultural Competence; Cultural Diversity; Diversity in Early

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CULTURAL COMPETENCE

Cultural competence refers to awareness, knowledge, and skills that result in respect for and valuing of culturally and linguistically diverse groups of people and the ability to acknowledge multiple perspectives. It involves a critical analysis and understanding of how different value systems and belief systems relate to one another and coexist within various social contexts. This includes an understanding of how power dynamics between social identities, defined by value systems and belief systems, shape social relations between groups (intergroup), within groups (intragroup), and at the individual (personal) levels.

Overview

Cultural competence in early childhood education is the engagement and valuing of all knowledges. This is in contrast to a preparation for a future of schooling that narrows the definition of what counts as knowledge and often promotes a dominant culture as being of most worth. The concept of cultural competence is to acknowledge the existence of different cultures at the systemic (schooling) and individual (educator) levels and to work toward an understanding and valuing of difference through critical self-reflection. This can be difficult work for educators of young children because dominant beliefs deem a future of narrowly defined possibilities as best for young children. Cultural competence during early childhood strives to foster perspectives

that open up possibilities. The epistemological and ontological implications of considering multiple possible ways of being are done through critical self-reflection by educators working alongside young children as co-learners.

The work of educators seeking to develop cultural competence involves a process of moving toward more equitable social relations. Central to the development of cultural competence in early childhood education is a broad philosophical consideration and understanding of systemic forces and how systemic and individual-level forces interact. This is important for the development of social justice dispositions in young children and the imagining of equitable social relations.

Research

The conceptualization of cultural competence is based in many academic disciplines, including education, language, psychology, nursing, and sociology. In the context of early childhood education, research includes exploration of teacher education, educator attitudes and practices, and early childhood development. Within the discipline of education, research around cultural competence over the past 4 decades has not settled on a single definition, and the main principles of cultural competence are debated. Researchers' own historical contexts and sociopolitical positioning shape and impact their understandings of cultural competence. However, a common base assumption in research is that cultural competence encompasses three key components: awareness, knowledge, and skills.

The three fundamental components are based on ideals of equitable social relations. First, culturally competent educators strive to practice critical self-reflection (awareness) focused on rethinking normalized ideologies and critiquing dominant and supremacist/imperial systems of thinking and being. Second, culturally competent educators develop a broad and deep understanding (knowledge) of the cultures that young children bring with them and appreciate these cultural differences as assets rather than deficits. Third, culturally competent educators engage in transformation alongside young children, caretakers, and community

members and practice pedagogical methods (skills) that embody the awareness and knowledge of cultural competence. This also requires culturally competent educators to advocate for the transformation of oppressive social relations and actively work for socially just transformation.

Theory

The definition of cultural competence must begin with understanding what is meant by both *cultural* and *competent*. *Cultural*, in this case, means diverse and nonhierarchical epistemologies and ontologies, both inside and outside the bounds of Western European Enlightenment rationality and modernity. *Competence* means awareness at various levels and through diverse modes of understanding, ultimately recognizing the prism-like fractioning of understandings that are possible in the construction of the social world and how social relations are engaged. Cultural competence asserts that understanding issues of diversity should go beyond mere knowledge of cultural differences. Moving beyond knowledge involves work that seeks to critique and transcend delineated ways of knowing and being, in an attempt to transform or transcend Western conceptualizations of epistemology and ontology. Within early childhood education the practice of cultural competence by educators and young children brings together popular and social understandings of historical social difference based on identity with academic understandings and, perhaps most significantly, with philosophical considerations of how difference operates in the construction of reality.

Foundational scholars in education that have contributed to the conceptualization of cultural competence include James Banks, Cherry A. McGee Banks, Geneva Gay, Christine Sleeter, Carl Grant, and Sonia Nieto.

Framework and Strategies

In educative practice, cultural competence is the holistic incorporation of social justice understandings of sexuality, race, gender, (dis)ability, socioeconomic

status, religion, language, family structure, nationality, ethnicity, ideology, species, and other social identities. Cultural competence is necessary not only in settings traditionally thought of as diverse, such as urban classrooms, but also in all formal and informal education settings. There are many forms of diversity that are often overlooked, such as communication styles and patterns, linguistic preferences (e.g., nonstandard English), relationships to time, views of (dis)ability, and conceptions of family roles, for example.

Accreditation bodies of teacher education programs are increasingly developing standards that require future early childhood educators to work in diverse settings and be provided opportunities to develop multicultural dispositions. However, there is little consensus on how to encourage the development of cultural competence in teacher education programs. One challenge in the work of developing cultural competence in early childhood education is the lack of educators who are themselves culturally and linguistically diverse. Research shows that the largely monocultural (female, White, Christian) population of early childhood educators and caregivers often embodies White, “middle-class” normative practices. One of the first steps in moving toward being a culturally competent educator is the awareness, beyond a superficial comprehension, that one’s own way of being in the world is socially constructed.

Early childhood educators wishing to cultivate the awareness and knowledge necessary for developing cultural competence can do so in the following ways:

- Critically reflect on the cultural influences on one’s own beliefs, thoughts, and behaviors.
 - Seek out cross-cultural experiences, such as discomfiting experiences, that decenter one’s own worldview as the “norm” and allow oneself to confront previously unchallenged beliefs.
 - Develop an ability to understand and value difference.
 - Acknowledge and understand that teaching is a political act, that there is no neutrality in education, and that no educator is unbiased.
 - Recognize that formal education systems operate within systems of institutionalized oppression (e.g., racism, sexism, and classism).
 - Develop and practice empathy through critical self-reflection and the cultivation of a critical consciousness.
- Within the field of multicultural teacher education, as it relates to cultural competence, there have been many calls for the enhancement of pedagogical skills for working with increasingly diverse student populations. It has been argued that culturally competent educators, equipped with strong social justice dispositions, are especially important in early childhood education because the attitudes and beliefs of young children are highly malleable.
- The pedagogical skills and strategies that support the practice of cultural competence include the following:
- Create supportive learning environments for all young children from all backgrounds.
 - Celebrate and respect diversity and difference in non-tokenistic ways.
 - Interact respectfully and appropriately with young children, families, and community members of all cultural backgrounds.
 - Enact culturally relevant pedagogy and culturally responsive teaching.
 - Embed oneself in the communities of students and work alongside community members and organizations as an advocate and possibly activist through the development of a critical consciousness.
 - Consciously reject a deficit mentality; hold the same expectations for all students.
 - Practice the ability to understand others’ worldviews.
 - Foster a way of being that embodies respect for diversity.
- The skills and practices of cultural competence require early childhood educators to develop a critical, social justice stance so that the inclusion of topics of diversity is not done in a tokenistic way as an add-on to existing curricula. Respect for diversity is infused into every aspect of the classroom

culture and curriculum, including in relation to classroom management and the physical space of a classroom. This is in contrast to a superficial celebration of diversity, such as decorating a classroom for Cinco de Mayo or reading books with Black characters only during Black History Month.

Young children internalize social understandings of U.S. society based on gender, race, and class. To not engage with young children around the concepts of gender and race, often based on a belief that young children are not ready for such engagement, is to maintain a willful denial of how the social world in which young children exist is constructed. Through transformative self-work, educators seeking to develop cultural competence should challenge the willful denial of social relations built by a colonial world system that maintains oppression and systems of inferiority/superiority. Because the social identities of each child inform his or her positionality in the social world, a bare analysis of the inequities based on hierarchical social identities can only benefit young people in understanding what is unjust and to begin to imagine equitable alternatives.

Multicultural teacher education asserts that meaningful curricula combined with relevant pedagogical approaches are grounded in broad and deep sociological understandings of the various cultures that individuals carry with them into a formal educational setting. An example of a culturally competent approach on the part of educators is the development of relationships with the caretakers of young children and with members of the communities in which young children are situated. The understanding of how social relations operate between the educator self and socially different others can provide culturally relevant insight on the part of the educator and aid the development of cultural competence.

Social relations based on historical oppression (oppressed–oppressor relationality) are of curricular importance in understanding how power dynamics operate based on social identities in contemporary societies. The example of slavery in the United States and its influence on contemporary racial identities, as created by the U.S.

Declaration of Independence, holds promise for exploring White racial identity and in supporting young children’s understanding of how racial identity intersects with other social identities based on dominant ideologies. An examination of slavery in the United States provides opportunities for young children to develop philosophies of social equity. In turn, educators learn from young children. The student–educator relationship is dialectical in nature when educators have developed cultural competence.

The imagining of an equitable society is difficult work if early childhood educators have not previously rethought dominant social norms. The example of slavery in the United States highlights the exclusionary discourse within the dominant narrative around the creation of the United States as a nation-state. The contradiction between fighting for independence in the U.S. revolutionary war and the reality of the enslavement of certain people is rarely part of the dominant historical narrative. This is a simple example from the U.S. context, and culturally competent educators must constantly critically self-reflect and move beyond a delineated conceptualization of knowledge. This can be difficult work for early childhood educators as they rethink what is considered normal within their conceptions of self, nationality, and race. Such an approach necessitates a commitment to the struggle of confronting difference when an educator’s values and beliefs are challenged by young children’s learning processes and the cultures they bring into the formal educational setting. The education of young children is not simply preparation for later learning. Rather, learning from multiple forms of knowledge can be engaged as an existential endeavor for the purpose of social justice and social equity.

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See also Critical Theory; Cultural and Linguistic Responsiveness; Cultural Diversity; Diversity in Early Childhood Education; Equity and Equality in Early Childhood; Intellectual Diversity; Preservice Teacher Preparation; Sociocultural Theory

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anthropologists in their analyses of the behavioral patterns and normative customs of groups (Garcia, 2003).

The culture concept, with its technical anthropological meaning, was first defined by Edward Tylor in 1871 as “that complex whole which includes knowledge, belief, art, law, morals, custom, and other capabilities and habits acquired by man as a member of society” (Kroeber & Kluckhohn, 1963, p. 81). Over time, various perspectives and definitions have been put forward. These modifications and adaptations have included Tylor's elements but also have come to acknowledge constructs that are more useful in understanding the development, change, and measurement of culture. Most adaptations agree that culture is learned, but recent thinking has also begun to consider biological transmission factors of culture (Garcia & Garcia, 2012).

Group-Oriented Culture Concept

Most concepts of culture begin with the notion that individuals who share similar social elements form a culture. This formulation is useful for comparisons between societies or subgroups within societies. Its basic assumption, however, is that of uniformity in the cultural elements. The individuals within the cultural group are assumed to have all the same social elements.

Yet, it is important to acknowledge that members of a culture display differences in their behaviors and ways of thinking and valuing—members are very diverse in their sharing of even the most common elements of a culture. Therefore, cultures are characterized by intracultural heterogeneity. Unfortunately, such discussions remain most often at the level of group description regarding cultural systems. Individual differences are understood as background.

Adopting a group-level definition of culture, even though it acknowledges diversity within the group, generates a problem for understanding the important meaning of heterogeneity within the group. A teacher confronting a student from a different cultural group may ascertain that the key elements of importance for that student are the

CULTURAL DIVERSITY

When we speak of “the culture” to which an individual belongs, our reference is generally to the system of understandings (values, prescriptions, proscriptions, beliefs, and other constructs) characteristic of that individual's society or to some subgroup within his society—that is, ethnic minorities, social classes, countercultures, generations, sexes, and occupational groups. This is the traditional notion of culture employed by functionalist

cultural elements of the group. Therefore, a group-oriented notion of culture may serve to detract the teacher's attention from individual attributes of the student as it relates to the instructional process. Most unfortunate is the stereotyping that may occur by the teacher, providing a more generic understanding of the student's culture and missing important individual attributes of the student. The overall "connection" between the teacher and the student may be at risk, leading to limited and/or inappropriate instructional interaction.

A situation common in the United States places a teacher in the role of instructing one or more students who may speak a language other than that of the teacher and who have immigrated recently from outside the country. Utilizing a group-oriented cultural perspective, the teacher may search for an understanding of these students by comparing the students' behavior to the cultural elements that characterize members of the students' cultural groups. By doing so, the teacher, as an amateur cultural anthropologist, misses the meaning of the important individual attributes of the students as they relate to the cultural practices of the ethnic group and the instruction to be provided.

The Individual-Oriented Culture Concept

Anthropological, sociological, and psychological approaches to culture and learning contain an individual-oriented conception of culture developed and utilized significantly in applications to education. These conceptualizations attempt to address the individual in the context of a participant in an organic view of culture. An early expression of the individual-oriented concept of culture is seen in the work of J. O. Dorsey. Edward Sapir (quoted in Garcia & Garcia, 2012, p. 86) wrote the following of Dorsey's orientation:

Living as he did in close touch with the Omaha Indians, [Dorsey] knew that he was dealing, not with a society nor with a specimen of primitive man . . . but with a finite, though indefinite, number of human beings who gave themselves the privilege of differing from each other not only in

matters generally considered as "one's own business" but even on questions which clearly transcended the private individual's concerns.

An individual-oriented conceptualization begins with the foundational principle that an individual's culture is best thought of as the individual's participation in a pool of constructs (rules, beliefs, values) by which she or he orders the objects and events of her or his life. The specific participation of any individual of the culture in this pool is seen as variable. An individual is also acting on the culture as she or he manipulates, recombines, and otherwise transforms inherited constructs. This variable participation is a major source of culture change and cultural diversity. An implication of this approach to defining and working with cultural diversity can be seen as a rejection of the traditional assumption and implies that each individual's portion of the culture differs in some ways from those of the other members of a society with many identifiable and traditionally defined cultures.

For instance, in efforts related to understanding "Hispanic" culture, we begin with the notion that individuals identified as "Hispanic" are quite diverse in various domains of the traditionally defined culture. Therefore, each individual is considered unique in attributes related to the culture. There is still recognition that the individual shares some traits with the "Hispanic" cultural group. But the focus is on the individual's traits. Cultural integration is a crucial variable in the analysis of Hispanics, and its process contributes significantly to the existence of the heterogeneity of "Hispanic" cultures. Writing of Chicano culture, Frank Bean and Marta Tienda (1987) note, for example, that among Chicanos "many have ancestors who came to North America several centuries ago, but others are themselves recent immigrants. Hence, a simple cultural characterization of [this] ethnic group should be avoided" (p. vii). It is just not a matter of replacing Mexican traits with new American traits. Instead, traits may merge and new traits may evolve as a function of the interaction of the individual with new and diverse individuals and institutions. This makes our understanding of this

population much more complex but much more informative. This more informative approach does not negate the significance of customs—behavioral routines passed on from one generation to another. Referring to the “layered” nature of culture, medical anthropologist Benjamin Paul (1969) observed,

What we call customs rest on top and are most apparent. Deepest and least apparent are the cultural values that give meaning and direction to life. Values influence people’s perceptions of needs and their choice between perceived alternative courses of action. (p. 33)

What needs to be emphasized in understanding cultural diversity is the significance of broader characteristics of the notion of culture (we share a similar pool of traits that identifies us as a member of a culture) and how the individual interacts with that pool and other cultural pools. Educationally, we are asked to consider this intersecting conceptualization simultaneously. In doing so, we recognize the complexity of culture diversity and its ongoing evolution as individuals live their cultures (Rogoff, 2011). This means we must avoid putting the children and students we serve as educators in “boxes” that are not relevant in guiding our perceptions and actions. In any cultural box that we name, “Hispanic,” “African American,” “Asian,” “Native American,” and so on, a wide variety of students so identified do not belong in the “box.” The diversity that we observe in these children and students is what makes them who they are and what should drive us in our teaching and learning endeavors.

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See also Cultural and Linguistic Responsiveness; Cultural Competence; Diversity in Early Childhood Education; Professional Development for Diversity

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- Since the publication of *Children’s Play in Diverse Cultures* (Roopnarine, Johnson, & Hooper, 1994) more than 2 decades ago, our understanding of the ethos of childhood, childhood activities, and early childhood education in different cultural communities around the world has increased significantly. Witness, for example, the growing number of volumes dedicated to the cultural basis of human development and early education in different regions of the world. In the area of children’s play, three relatively new journals (*International Journal of Play*, *American Journal of Play*, and *Journal of Playwork Practice*) and the Association for the Study of Play volumes have all made concerted efforts to publish research on children’s play and play-like activities in cultural communities at different levels of economic and technological development.
- These advances have no doubt occurred as a result of the push within social science and educational disciplines and subdisciplines for more indigenous perspectives on childhood development and for greater integration of scientific knowledge on children’s play from different regions of the

CULTURAL VARIATIONS IN PLAY

world (see Roopnarine, Patte, Johnson, & Kushner, 2015). This entry presents a selective overview of children's play in diverse cultural settings. It focuses on three primary issues: (1) conceptual considerations, (2) parental beliefs about play, and (3) variations in the meaning of children's play in cultural settings.

Conceptual Considerations

Traditional cognitive and social development theories and frameworks on children's play, including those by Jean Piaget, Mildred Parten, and Sara Smilansky, and, by extension, definitions of play have been instrumental in laying the foundation for much of the research and discussions on play and childhood development in North America, Europe, and, to a limited extent, cultural communities in other parts of the world. Whereas these established frameworks have played a seminal role in guiding our understanding of play and development generally, the cultural bases and properties of children's play in the developing world have been a minimal part of larger intellectual efforts and discourses.

Today the fields of child development and early childhood education are faced with the challenge of addressing play and development in a global community influenced by remote acculturation, changing childrearing practices, revisions of national early childhood education goals and objectives in a number of societies, greater numbers of manufactured toys and objects, reduction of play spaces, internal and external population mobility across societies, and greater awareness of the rights of children. In view of the complexities of these issues, play research and practice would be greatly enhanced by further considerations of the cultural properties of childrearing and conditions within the immediate ecological niches that influence their expressions. Put differently, there are diverse cultural pathways between play and early development, and factors within ecological niches assume a pivotal role in influencing such pathways.

The links between play and play-like activities and childhood development are likely mediated via

the beliefs and socialization processes embraced by particular cultural groups. This position is rooted in the frameworks of Lev Vygotsky, Beatrice Whiting and John W. M. Whiting, and Charles M. Super and Sara Harkness, all of which emphasize the contextual aspects of childhood activities and development.

In particular, Whiting and Whiting (1975) identified environment and history, maintenance systems (e.g., subsistence patterns, modes of production), learning environments of the child (e.g., settings, caregivers), behavioral tendencies and beliefs of the adult, and projective-expressive systems (e.g., religion and ideology) in shaping parental behaviors and childhood outcomes. Adding to these contextual issues, other frameworks such as colorism, critical race theory, and anti-colonial theory have aided our understanding of developmental patterns in historically oppressed groups (e.g., African Americans, indigenous groups, formerly colonized groups). These latter frameworks underscore changes that have occurred in parenting practices and children's play over time in certain cultures as a result of transplantation, loss of natal cultural practices, and dominance and resistance (Escayg, 2014). They are mentioned here in an effort to help build a pan-cultural understanding of play and development inclusive of the experiences of a sizable number of children who live under difficult social-political and economic circumstances.

Parental Beliefs About Play

Parental beliefs or ethnotheories about childrearing and childhood development guide the introduction and structuring of social and cognitive experiences for children. These beliefs or ethnotheories represent cultural ways of knowing and doing things, and they vary a good deal by ethnicity/cultural groups and sociodemographic characteristics. For example, cultural variations exist in the age at which parents expect children to acquire common developmental milestones, begin rigorous early academic training, and display courtesy, obedience, and respect. Different expectations and

understandings about play and its role in cognitive and social development in young children are also evident across cultural communities.

It has been argued that beliefs about the benefits of play can be placed along a continuum. Economically privileged groups (e.g., Europeans, European Americans) who see play as a developmental asset for the acquisition of basic cognitive and social skills necessary for preparation for entry into formal schooling are at one end. In fact, some have gone so far as to suggest that play stimulation is a modern invention of White middle-class parents because of its rarity in other cultural groups (Lancy, 2007).

At the other extreme are many parents, mainly in the developing societies, who see play as a naturally occurring event in children with few, if any, connections to the development of childhood skills. For example, Yucatec Mayans view children's engagement in play activities as signaling that children are healthy and out of the way of adult activities; Indian mothers think children play naturally; Jamaican parents believe that early childhood settings are for academic work and the outdoors are for play; and Taiwanese mothers and Asian American mothers endorse play with academic materials but are unsure about the benefits of play in general. Migrant worker parents in the United States are often dismayed that children spend so much time playing in preschool, and Turkana pastoralists native to Kenya believe work takes precedence over playful activities as children age (see Roopnarine et al., 2015).

These belief systems indicate that parents often view early learning as occurring through mechanisms other than play activities. In particular, the Yucatec Mayan engage in what Gaskins calls open attention where children, when playing, "always have one foot in the play frame and one foot in the real world" (Gaskins, 2015, p. 13). According to Gaskins, they are expected to notice what is going on around them even as they play. However, in several emerging economies, such as Turkey and Brazil, better educated families are beginning to endorse play as a means to learning cognitive and social skills (Ivrendi & Isikoglu, 2010; Vieira et al., 2010).

Newer attitudes about the benefits of play in these emerging economies may be connected to (a) movement away from traditional approaches to childrearing (e.g., unilateral obedience, total interdependence) toward more child-centered approaches that value both autonomy and interdependence, (b) the presumed benefits of early education and play stimulation in staving off the effects of poverty and challenging home and neighborhood environments, and (c) a greater emphasis on the rights of children worldwide.

Cultural Practices and Parent-Child Play

Socialization beliefs and practices are the drivers behind the nature and quality of play activities that parents engage in with young children. Data from two studies provide adequate support for this proposition. In a comparative analysis of parent-child interaction, Keller, Borke, Chaudhary, Lamm, and Kleis (2010) assessed family allocentrism (e.g., family cohesion) socialization goals (autonomous, relational) and mother-infant play in New Delhi, India, and Berlin, Germany. Consistent with beliefs and practices in both cultural communities, Indian mothers scored higher on allocentrism (e.g., family cohesion, closeness) and expressed more relational socialization goals (e.g., close social ties), whereas German mothers expressed more autonomous goals (e.g., independence striving). It appeared that these childrearing beliefs and practices affected the types of play activities the two groups of mothers engaged in with their infants. Indian mothers engaged in less distal parenting (more touching and holding) and more didactic play. German mothers promoted more autonomous play (child's initiative for play, respect for autonomy, supportive approach to play). However, the two groups did not differ in face-to-face contact and play with objects.

Research conducted in English-speaking Caribbean countries also suggests parallels between childrearing and childhood development, but in a slightly different way. Caribbean parents place a high premium on facilitating academic preparation, learning manners, and being obedient to

adults. Not surprisingly, when parents were asked about the most important things children should learn in preschool, they indicated writing and spelling their names, recognizing the letters of the alphabet and accompanying sounds, number recognition, and counting (Leo-Rhynie et al., 2009). These expectations were reflected in classroom practices and teachers' ratings of children's involvement of play activities in early childhood classroom settings. In preschools in both Guyana and in Trinidad and Tobago, children's engagement in artistic expression, symbolic play, cooperative play, and creative imagination were in the moderate to low range. Play is simply not emphasized as a viable way of learning early academic skills in Caribbean communities.

Variations in Children's Play

That children play in diverse ways (e.g., combining work with play, exploring the realms of the play world and reality, using natural materials) and in diverse settings (e.g., seaside communities and inland rivers in Brazil, riverbed communities in Kenya, structured agencies in Taiwan) across cultures has long been established. What is of importance here is the pan-cultural value that can be applied to play. The growing body of work on children's play in different cultural communities points to three salient issues: (1) The physical setting or ecological niche can impose limits on but also provides numerous opportunities for children to play in diverse ways; (2) parental belief systems or ethnotheories govern or, at the very least, shape the types of play and play-like activities children engage in across settings; and (3) the changing dynamics of childrearing worldwide seem to affect where and how children play.

Whether in the seaside communities of Brazil or the dry riverbeds in Kenya, seasonal changes and materials available to children within the natural environment alter their play considerably. Among several cultural groups, because parents see play as an integral part of childhood, systematic attempts to stimulate children through play are rare and may even be viewed as odd. But the single most important factor bringing into sharp focus the role

of play in childhood development is the changing nature of childrearing and expectations of children in a globalized world.

Implications for Early Childhood Development

The promise of play as a learning mechanism for the acquisition of academic and social skills is gaining traction worldwide. However, the degree to which this promise is embraced and implemented within homes and early childhood classrooms outside of the developed world remains sketchy. There is some agreement among early childhood researchers that play and play-like activities offer one of many avenues (others being direct observation and participation in adult-like activities or apprenticeship-like activities) for children to acquire the skills necessary for life within a particular cultural community. Play as a construct for learning is witnessed in the replication of adult activities by young children in a variety of settings (such as camel herding in the pastoralist Turkana or the daily activities of the Parakana Indians of Brazil). Nevertheless, the direct connection between play and learning is less well understood in the developing world. We propose that play provides a context for the qualitative expressions of wide-ranging activities that are directly or indirectly related to aspects of childhood development through different cultural pathways.

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See also Child-Initiated Play; Cultural Diversity; Determinants of Child Development; Diversity in Early Childhood Education; Parenting Effects on Child Development; Play, Definition of; Play and Early Childhood Education; Sociocultural Theory

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CURIOSITY

Curiosity is often given great importance in early childhood and is included in educational and curricular standards, such as those developed by the National Association for the Education of Young

Children and American Association for the Advancement of Science. It is also discussed in federal legislation such as the No Child Left Behind Act. Teachers choose it as one of the top five skills or traits children need for school success and place it above counting ability and letter awareness as predictive of school readiness.

Despite this perceived importance and the unchallenged belief that curiosity is critically important for learning and motivation, little is known about curiosity in early childhood education. This lack of understanding is perhaps due to the difficulty in defining curiosity and the equally challenging task of designing ways to measure children's curiosity. This entry discusses how curiosity has been defined and measured in research and what is known about the relationship between curiosity and learning.

Research on Curiosity

Daniel Berlyne defines curiosity as the desire to alleviate a feeling of missing or inadequate information, resulting in “specific exploration” to find that information. *Epistemic curiosity* is exploration that goes beyond providing a means to gaining missing information to include the desire to acquire knowledge. Like many psychological constructs, curiosity can be both a stable personality characteristic and a state influenced by environmental factors. Educational programs suggest the importance of both utilizing children's curiosity (more trait-focused) and fostering curiosity (more state-focused).

Research on curiosity also differentiates between curiosity as a state and trait in its measurement. The majority of research on adults uses questionnaire scales intended to assess curiosity as a trait, asking how people feel about things in general. Some, though, focus on how curious adults are across different situations, using prompts about how curious people feel in specific instances or scenarios.

In children, curiosity has been studied using both questionnaire and behavioral observation measures. In a series of studies, Wallace and Ethel Maw used rating scales to assess children's curiosity. Teachers and/or parents ranked children's curiosity

using a detailed definition with descriptions of a curious child, such as one who demonstrates the desire to learn, persists in exploratory behavior, and reacts positively toward and seeks out new or strange things. Peer ratings and self-ratings were also used, with children matching their classmates and themselves to a series of vignettes about more and less curious children. Curiosity was found to relate to learning behaviors such as attention and persistence, but also IQ—perhaps because of teachers' difficulty differentiating curiosity from more general scholastic aptitude, confounding the measure. Self-report measures have additional limitations in developmental research; they rely on reading or verbal comprehension abilities and are less engaging than behavioral measures. Thus, direct measures of exploratory behavior have been the preferred method for developmental research.

Behavioral measures for young children tend to fall into three broad categories: (1) curiosity as spontaneous exploration, (2) curiosity as exploratory preference, and (3) curiosity as preference for unknown and uncertainty. These categories are not exclusive; rather, they are somewhat organized from broadest to narrowest, and the focus switches from being on solely the *amount* of exploration, to *what* is explored, to the *interaction* between a child's knowledge and the characteristics of an object or event.

In assessments of spontaneous exploration, children are observed playing either with toys or in a stimulating environment, and frequency of physical manipulations and/or verbal observations and questions provide a curiosity score. While this method of measurement involves natural exploratory behavior, it ignores several factors of the stimuli and activity—for example, children might have different levels of familiarity with the toys or environment, which leads to different interactions, and some choices might be more appealing or interesting to some children or have differences in possible manipulations. It is also unclear whether these measures give an indication of more stable or more state-dependent curiosity, as they do not indicate whether children would similarly explore across situations or whether

behavior was dependent on the specific materials provided.

Some of these issues can be addressed by shifting the focus to specific characteristics prompting exploration. Curiosity as exploratory preference involves how likely a child is to explore based on an object or event's characteristics. When curiosity was assessed using figures and toys varying in novelty, complexity, incongruence, or conceptual conflict (e.g., an animal with mismatched parts), children preferred looking at and playing with more novel, complex, incongruent, and conflicting stimuli, though there was high variability, suggesting individual differences. This research suggests that designing these types of materials and opportunities for learning can motivate curiosity. Studies also suggest the relationship is not linear, that these characteristics increase exploration only to a point, at which the likelihood of exploration begins to decrease again, and this point may not be universal for all children.

The third operationalization of curiosity—preference for uncertainty or ambiguity—focuses less on the characteristics of objects or events themselves and more on the relationship between them and a person's existing knowledge. A toy does not have to be new or complex, but the children feel they do not know something about it and thus feel a desire to find the unknown information. For example, children were more motivated on a task when it related to their ability to find something out, and they preferred to explore most when faced with surprising, uncertain, or ambiguous information, even when the alternate choice was novel.

George Loewenstein's information gap theory of curiosity explains these results by suggesting that curiosity results from a person's realization of a gap in his or her current knowledge state and the perceived ability to acquire the information to fill the gap. To study information gaps in adults, researchers asked adults to rate their feeling-of-knowing on items (e.g., don't know, know, or tip-of-tongue [TOT], when participants felt they knew but couldn't retrieve the information). The highest levels of curiosity and exploratory behavior were reported for TOT-producing items.

Jamie Jirout found a similar pattern in young children's exploration of information gaps by experimentally manipulating the amount of information given to children to create differing information gaps in an exploration game. However, she also noticed variability in the strength of preferences for both children within the same task version and those with varying amounts of uncertainty. Children's "uncertainty preference"—a more stable characteristic—was assessed with a computer program with an algorithm to present exploration choices differing in uncertainty based on children's exploratory behavior. Although most children become curious when presented with *some* uncertainty, the level most likely to lead to individual children's exploratory behavior varied. Research assessing issues of reliability and validity of this measure and the measures of curiosity as a state continue to be developed, but their use has yielded some knowledge about children's curiosity in education.

Curiosity in the Classroom

Is curiosity related to learning? Do more curious children learn more, and are learning opportunities that promote curiosity more effective? Examining the relationship between curiosity and learning is difficult. The literature on curiosity is inconsistent in how curiosity is defined and measured, so findings cannot be generalized across studies. In studies of curiosity as a stable, individual differences variable, the link between curiosity and learning can only be assessed as correlational. The relationship between general IQ or ability and curiosity has inconsistent findings, and only a few studies have looked at curiosity and *learning*.

In one such study, children differing in curiosity level did not display different exploration patterns while playing in a museum exhibit, but curiosity did relate to how much children learned, with more curious children learning more from their play. Similar findings were observed in a study of learning from exploration of a virtual museum, in which highly curious children were found to learn more than less curious children. In a study of learning in a more structured setting, no differences in

learning from a question-asking intervention were found between children who were more or less curious, although the more curious children asked more questions in general and were better able to identify *effective* questions, and asking and recognizing effective questions are skills that could lead to learning. Children have been found to learn better from self-generated questions than textbook- or other-generated questions, perhaps from self-explanation and having to identify a knowledge gap and articulate it with a question.

When looking at curiosity as a state, children can be made more or less curious by introducing information gaps. There is some evidence that this leads to learning. In a study of children's causal reasoning, children saw either unambiguous or ambiguous demonstrations of the causal function of a toy. When they saw ambiguous demonstrations, children were more likely to choose to explore the demonstrated toy than a novel one, which was chosen more often after unambiguous demonstration of the causal functions of the toy.

In another study investigating the influence of instructional constraints on exploration, children interacted with a toy with four possible functions. When shown one of its functions (and, not knowing about the other functions, having no uncertainty about how the toy worked), children explored and discovered fewer other functions than after no demonstration or a demonstration that was perceived as incomplete. Children may have been more motivated to explore multiple functions with no demonstration or an incomplete demonstration because they didn't understand how the toy worked, creating a gap in knowledge. The same pattern of results was observed for physical exploration of a noncausal task and with a digital exploration game, on which children were more engaged and motivated although learning was not assessed.

More work is needed to understand what makes children curious and how to address different individual levels of curiosity in education, although the state-curiosity research provides clear suggestions for how to promote children's curiosity. Helping children to recognize a gap in their knowledge can lead to increased effective exploration and question

asking, activities related to learning. For example, having children generate their own questions can help them identify what they know and do not know. Demonstrations that are surprising or have unexpected outcomes can lead to exploration, and introducing uncertainty using “cognitive conflict,” or a contradiction with a child’s existing knowledge, leads to both conceptual change and generalization of learned concepts, as well as making a learning activity more motivating. However, when designing these activities, determining how much uncertainty is “too much” is difficult, especially with individual differences in preferred uncertainty.

Amanda Markay and Loewenstein suggest that of crucial importance for curiosity and learning is providing a welcoming and supportive environment where exploration is encouraged, as well as answering children’s questions directly or assisting them in answering their own questions—and to not get in the way of exploration. Fortunately, children can be seen expressing curiosity even when conditions may not be very supportive. With the freedom to explore, the resources needed, confidence in their ability to find desired information, and guidance or scaffolding when needed, their curiosity will hopefully lead to learning.

Jamie Jirout

See also Approaches to Learning; Creativity; Developmentally Appropriate Practice; Inquiry; Motivation; Play, Benefits of

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CURRICULUM AND EARLY CHILDHOOD EDUCATION

This entry begins by defining curriculum, then looking at its special meaning in early childhood education. It defines stages of curriculum development, from a set of ideas, to a book, to demonstration programs, to an observational assessment tool, and distinguishes between evidence of the validity of independent curriculum practices and evidence of the validity of complete curriculum implementation in specific programs. It tracks the history of early childhood curriculum models, from Friedrich Froebel’s kindergarten, through the Montessori method, to the development of various curriculum models with the advent of the national Head Start program in the United States. It identifies several types of early childhood curriculum models, with the basic distinction being teacher-centered versus child-centered. It summarizes five well-developed, currently prevalent models—HighScope, The Creative Curriculum, Tools of the Mind, Reggio Emilia, and Montessori—then compares them and summarizes curriculum comparison studies.

Definition of Curriculum

Although curriculum is commonly defined as a course of study, a more useful definition is the planned interaction of pupils with instructional content, materials, resources, and processes for evaluation. Some equate curriculum solely with educational objectives for students, but this definition clearly embraces educational practices and even assessment practices. Indeed, one might simply define curriculum as what takes place in education.

In early childhood education, curriculum has taken on a second meaning, that of educational model. This was probably because early childhood education was not so strongly rooted in the educational traditions of schooling by teacher-directed instruction based on reading, writing, and arithmetic. The content and educational practices of early childhood education were more open to debate. Should the content focus only on literacy and mathematics, or should it extend to other aspects of children's learning and development, such as social and emotional skills and attitudes, habits of mind, and physical skills? Should educational practices focus on the transmission of knowledge from teacher to students, or should the teacher facilitate children's learning from their own activities? Early childhood curriculum developers take various positions on these issues and develop curriculum models representing these positions.

Stages of Curriculum Development

A curriculum model may be seen as a set of ideas describing how an educational program should work. This set of ideas may be published in a book or set of books or audiovisual materials. Successive editions of these materials translate into successive editions of the curriculum model, which are meant to keep up with changing contexts and perhaps apply new research findings or ideas to the model. It is possible for various writers to represent the same curriculum model in different ways. To resolve such discrepancies, one person or body needs to have the ultimate authority for designating what constitutes accurate representation of the curriculum model.

Viewing a curriculum model as residing in operating programs leads immediately to the question of which operating programs accurately represent the model. There might be a flagship classroom so designated, or, in the case of the Reggio Emilia approach, early childhood programs in a particular city. But just as human beings do not always live up to their ideals, so do teachers not always faithfully represent a curriculum model.

A third option is to have an assessment tool that defines and decides what constitutes best expressions of the curriculum model—which practices are correct or desirable and which are incorrect or undesirable, which practices are better than other practices. HighScope developed the Program Quality Assessment for this purpose. Similar instruments, such as the Early Childhood Environment Rating Scale and the Classroom Assessment Scoring System (CLASS), are not identified with a specific curriculum model and cannot be used for this purpose without further development or interpretation.

A curriculum model goes through various stages of development, some models advancing further than others. First comes the basic curriculum ideas or principles, articulated in some form. Next comes a more complete written description of the curriculum model—its principles, practices, goals, and objectives. The curriculum model must be put into practice during this initial period for the development of the ideas to take place. Because the worth of education comes from its contribution to children's development, it is desirable for research to be conducted along the way to determine (a) whether the model's principles and practices can be found in observable practice, and (b) whether the model's goals and objectives for children's development are achieved when its principles and practices are followed.

A curriculum can be evidence-based in two ways. One is that its principles and practices come from early childhood development and education research findings and theory. The other way is that the curriculum as a whole has been validated by research, that is, whether there is evidence that its principles and practices have been observed and

verified in real programs and whether these programs achieve their goals and objectives in children's development.

Brief History of Curriculum in Early Childhood Education

Traditionally, schools for children have grades, one for each year of age, with first grade—the beginning of traditional schooling—set at around age 6 throughout the world. Presumably, age 6 acquired this status as the time to begin to learn to read, write, and do arithmetic, the basis of traditional schooling. This definition of first grade underlies the development of early childhood curriculum as distinct from traditional schooling and open to the ideas of curriculum developers.

Froebel invented the idea of kindergarten, a garden for children, and developed what might be regarded as the first early childhood curriculum model in 1837 in Germany. Whereas others saw little value in children's play, Froebel made it the centerpiece of the kindergarten curriculum and saw it as the way to prepare for the intellectual learning to come later. He developed materials he called "gifts" (cubes, balls, and tablets) and "occupations" (materials for writing, drawing, and painting) and identified activities for children (games, songs, and stories). After Froebel, the next early childhood curriculum model came with Montessori in 1907 and then not until a flurry of models developed with Head Start in the United States beginning in 1965.

Head Start's position on early childhood curriculum is critical not only because it is the largest well-defined early childhood program in the United States but also because it influences many other programs. The 1998 reauthorization of Head Start requires each agency to have a curriculum, that is, a written plan that is based on sound child development principles; is consistent with Head Start Program Performance Standards overall; and includes goals for children's development and learning, experiences, staff and parent roles, and materials. The 2007 reauthorization requires each agency to implement an early childhood curriculum that promotes young children's school readiness, is

based on valid research and has standardized training procedures and curriculum materials, is comprehensive and linked to ongoing assessment, focuses on improving the learning environment, and is aligned with the Head Start Child Development and Early Learning framework.

Types of Curriculum Models

Early childhood curriculum models are often divided into whether educational activity centers on the teacher or the child. In a teacher-centered model, the teacher defines the educational activity by lecturing, speaking every other turn in a question-and-answer discussion, and assigning seat work. In a child-centered model, the child defines the educational activity by choosing or planning activities and their components. These terms are open to various interpretations, and it is easy to make either of them so extreme as to be dismissed. Most early childhood curriculum models fit somewhere on the continuum from purely teacher-centered to purely child-centered.

Alternative classification frameworks offer additional curriculum types. Parenting styles have been characterized as authoritarian (adult-centered), laissez-faire (child-centered), and authoritative. David Weikart, who led the early development of the HighScope Curriculum, developed a 2 × 2 matrix, laying out high and low degrees of teacher direction and high and low degrees of child initiation. Direct instruction involves a high degree of teacher direction and a low degree of child initiation. Traditional nursery school involves a low degree of teacher direction and a high degree of child initiation. Custodial care involves a low degree of teacher direction and a low degree of child initiation. HighScope and other developmental interaction models involve a high degree of teacher direction and a high degree of child initiation.

How Practitioners Relate to Curriculum Models

Early childhood practitioners relate to curriculum models in various ways. Some identify a curriculum model as their own and strive to follow it

exactly or to the extent possible, as advocated by Head Start. Others identify one or more curriculum models that influence them to some extent, following some but not all of the practices that define these models. Others see themselves as developing their own curriculum, possibly adapting some practices from various models or deriving practices from child development theories. Others do not follow a curriculum model and may not even see themselves as developing one. They may see government or professional standards as sufficient for the purpose of a curriculum model. However, curriculum models are part of early childhood education culture and influence all early childhood educators to some extent, whatever their position on adopting specific curriculum models. This influence makes it impossible to isolate the effects of a curriculum model from early childhood programs not using the model at all.

Some Leading Curriculum Models

The sixth edition of *Approaches to Early Childhood Education* (2013) has chapters on nine curriculum models, five from the United States and four from Europe. According to Jaipaul Roopnarine, one of the editors, the editors selected these models based on four factors: (1) external reviews solicited by the publisher; (2) the editors' reading of the most appropriate advances in the early childhood education field (e.g., cultural, developmental, theoretical); (3) research substantiation, ease of application, and appeal to early childhood education professionals; and (4) general feedback on the volume from early childhood professors, students, and practitioners across disciplines and geographic locations. The U.S. models are The Creative Curriculum, HighScope, Tools of the Mind, Bank Street's developmental interaction, and the project approach. The European models are the Piramide approach, Reggio Emilia, Montessori, and Waldorf.

The 2013–2014 Head Start Program Information Report offers early childhood curriculum alternatives for center-based services, family child care services, and home-based services. These alternatives are rooted in HighScope, The Creative

Curriculum, DLM (Developmental Learning Materials), High Reach, Domains Based Curriculum (Core Knowledge), Innovations, Scholastic Early Childhood Program, Parents as Teachers, Growing Great Kids, and Florida State University's Partners for a Healthy Baby. These alternatives were offered because of their prevalence in previous Head Start Program information reports, collected annually from Head Start directors throughout the United States.

Brief summaries of some of these curriculum models follow, focusing on those that are more fully developed, validated, and prevalent in the United States. This entry summarizes HighScope, The Creative Curriculum, Tools of the Mind, Reggio Emilia, and Montessori. This encyclopedia includes entries on these and other early childhood curriculum models that elaborate on these summaries.

HighScope Curriculum

The HighScope Curriculum is a system for adults to support children's active learning and development. David Weikart (1931–2003) and his colleagues developed the HighScope Curriculum for use in the Perry Preschool program and first published it for general use in 1971. HighScope has developed and spread its educational model for young children in preschool programs, infants and toddlers in home visit programs and child care settings, children in elementary schools, and teenagers in summer camps and after-school programs.

The HighScope Preschool Curriculum for children 3 to 5 years old starts with a strong commitment to young children as thinking, responsible human beings. Adults ask children what they want to do and help them develop essential knowledge and skills based on the children's own interests. They provide open-ended materials and interact with children to support their exploration and extend their learning. They arrange the classroom into activity areas to support various kinds of learning. They establish a daily routine that allows children to plan, carry out, and review their own learning activities. They focus on key indicators of all aspects of children's development. Teachers work with parents to apply curriculum principles

and practices with children at home. Teachers assess program quality with HighScope's Program Quality Assessment and assess children's development using the Child Observation Record.

Research support for the HighScope Curriculum comes from various studies. One study found that program participants are better prepared for school and have better long-term outcomes educationally, economically, and in crime reduction, thereby providing a substantial public economic return. Another study found that the HighScope Curriculum leads to substantial improvement in young children's intellectual performance and does better than a fast-paced direct instruction program in preventing emotional impairment or disturbance during schooling and serious crime in young adulthood. Another study found that classrooms with HighScope-trained teachers significantly surpass comparison classrooms on a range of supervisory and teaching practices, and children in HighScope programs do better than their non-HighScope peers in most aspects of their development.

HighScope has developed curriculum materials for parents and caregivers of infants and toddlers. The adults form loving, trusting relationships with the babies and toddlers in their care. As with older children, the approach focuses on children learning through direct, hands-on experiences with people, objects, events, and ideas. The curriculum offers proven teaching practices that support children's development, content areas for infants and toddlers, program and child development assessment tools, and a training model that helps parents, teachers, and caregivers implement the curriculum effectively.

HighScope offers various active-learning training options tailored to the needs of teachers and caregivers serving infants, toddlers, and preschoolers in all types of settings. HighScope training-of-trainers programs give early childhood program organizations anywhere the independent capacity to provide HighScope teacher training. These programs have enabled the establishment of teacher education institutes and centers in Canada, Chile, China, Great Britain, Indonesia, Ireland, Korea, Mexico, the Netherlands, Portugal, and

South Africa. HighScope has also recently provided training in Dubai, Saudi Arabia, the Caribbean, and elsewhere.

The Creative Curriculum

The Creative Curriculum is now in its fifth edition, focused on its foundation; its 10 interest areas for children, literacy, mathematics; and its objectives for child development and learning from birth through kindergarten. Diane Trister Dodge is the original developer. The model's roots are in the early years of Head Start in the 1960s, with a modest first edition coming out in 1978. It offers a complete system of resources that supports teachers at all levels of experience. The fifth edition is fully bilingual and meant to include dual language learners, children with disabilities, and children with advanced knowledge and skills.

The Creative Curriculum is based on the work of theories of Jean Piaget and Erik Erikson, research evidence, and the positions of the National Association for the Education of Young Children, especially on cultural sensitivity. Its foundational principles identify five contributors to children's successful development—positive interactions and relationships, socioemotional competence, constructive and purposeful play, learning interactions in the physical environment, and teacher–family partnerships. It has versions for preschool, infant-toddler care, and family child care. Each has a five-sided framework focused on how children develop and learn (socioemotional, physical, language, cognitive); the learning environment (interest areas, daily and weekly schedules); what children learn; caring and teaching; and partnerships with families. At the center of this framework are routines and experiences of various types. It rests on theory and research.

The Creative Curriculum and its child assessment Teaching Strategies GOLD have 38 objectives for development and learning within 10 domains. Each has 10 levels of difficulty defined at every other level of the objective. The assessment cycle comprises observing and collecting facts; analyzing and responding to them; evaluating

them; and summarizing, planning, and communicating them.

In addition to the curriculum volumes and Teaching Strategies GOLD, Teaching Strategies provides teaching guides focused on “studies” by children, intentional teaching cards, resources for read-alouds, and “Mighty Minutes” (100 small cards describing brief activities). These resources are intended to support professional development activities.

A study of The Creative Curriculum by Philliber Research Associates in 2004 found that training in it led to greater-than-expected gains in children’s school readiness. Several other studies are under way. Teaching Strategies GOLD was field tested and normed in 2009. In the Head Start FACES (Family and Child Experiences) study of 2006, 64% of Head Start teachers reported using The Creative Curriculum as their primary curriculum. It is also used in all military child care programs. In 2009 it was approved for use in 19 states that approve early childhood curricula for use. It is studied in many college courses.

Tools of the Mind

Tools of the Mind is an early childhood curriculum developed by Deborah Leong and Elena Bodrova following the child development theory of Lev Vygotsky (1896–1934). Vygotsky took a cultural-historical approach, bringing together individual and human history, and focused on applying the cultural tools of signs and symbols in children’s higher mental functions, that is, the tools of the mind. These higher mental functions, such as learning and teaching, deliberate memory, and logical teaching, fundamentally reorganize lower mental functions, such as reflexes, perceptions, associative memories, reactive attention, and sensorimotor intelligence. The major goal of education is to help children acquire the tools of the culture. Children shift over time from dominant lower mental functions to dominant higher mental functions.

Vygotsky’s general law of cultural development is that it goes from shared to individual, in contrast

with Piaget’s focus on individual child development. Development results from the complex interplay of the biological and the social. Learning can lead development, when it is in the child’s zone of proximal development, in which assisted development precedes and facilitates individual development. Teachers and children co-construct knowledge. Construction of knowledge takes place in a social setting. The teacher’s job is to supply the right materials and direct children’s attention. The teacher scaffolds children’s development from assisted to independent. Instruction amplifies but does not accelerate children’s development. The child’s social situation is the main mechanism of his or her development. Leading activities of development result in developmental accomplishments. The four stages of children’s development are infancy, toddlerhood, preschool/kindergarten, and elementary. School readiness develops in the first months of schooling, not before.

Early childhood teachers engage children in leading activities of development, largely by supporting their make-believe play. Such play should lead them to develop higher mental functions and cultural tools, not the full range of skills and concepts. The desired play is specifically make-believe play, not object manipulation, games, or sports. In make-believe play, children create imaginary situations, take on and act out roles, and follow the rules that comprise these roles; in this curriculum, they make play plans. Such play is not spontaneous, as the word is sometimes understood; rather, it helps children develop self-regulation and abstract thinking. They develop the mental tools of private speech and written speech, which evolve from pictures they draw and stories they tell.

From a Vygotskian perspective, special education is about re-mediation. Children have special needs primarily because of their sociocultural development rather than their biological development. Their lower mental functions have not reorganized properly into higher mental functions, so these higher mental functions develop as secondary disabilities and require re-mediation.

Several experimental studies involving random assignment of children to Tools of the Mind or

other preschool curricula have been conducted. Some have found effects on self-regulation and achievement and others have not.

Reggio Emilia

Reggio Emilia is a town in Italy (2010 population 168,883) that has an extraordinary tradition of social commitment to the development of its young children in supportive families. In 1968 Italy recognized the right of all children to high-quality early childhood education, subsequently developing maternal schools for infants, toddlers, and preprimary children. Teachers stay with the same groups of children while they are in a 3-year preprimary or 6-year primary school. Loris Malaguzzi (1920–1994) led the Reggio Emilia effort. He believed that custodial care and typical schooling dulled children's intelligence and that there was a better way. He saw theory coming from practice rather than theory driving practice. At that time, preservice teacher education was not required so Reggio Emilia developed in-service teacher education that involved documentation of children's activities, transitioning of children, and family involvement. The schools hired artists or art educators to help children express themselves. By the 1980s, Reggio Emilia sponsored traveling expeditions of children's work around the world.

The Reggio Emilia approach is based on three principles: (1) Acknowledge children's creative, intellectual, and communicative potentials; (2) schools are relationship systems: children's well-being comes from the well-being of teachers and families; and (3) doubt and uncertainty are reasons for teachers to learn about and with the children they teach. The school is a place for learning through relations, rather than a program; the curriculum comes from documentation of children's curiosities; and parents are educational partners. The physical space is very important to education—large central space, abundant materials, natural lighting, plants, like an Italian piazza. The space communicates the idea that each activity is important, for example, displaying photographs and artwork of children.

The curriculum has no stated goals or lesson plans but rather creates the conditions for asking and exploring good questions. Malaguzzi believed that children are capable of more than usually expected, and their work in Reggio classrooms shows that. Two teachers per classroom collaborate, meeting 4 to 6 hours a week for this purpose. Families help make school decisions, from menus to admissions policies.

Today Italy requires infant-toddler providers to have 3 years of college education and teachers of 3- to 11-year-olds to have 5 years of college education. Reggio Emilia has an age 3 to Grade 2 school; it has found success in bridging early childhood and education cultures with academically oriented art projects. Ten percent of Italy's population are now immigrants, and Reggio Emilia has embraced this challenge, showing it can serve them as well as upper middle class children.

The Reggio Emilia approach arrived in the United States along with new research on brain development, and in some ways its approach aligned with the findings of that research. It offered a new way of seeing developmentally appropriate practice. It got good press among early childhood educators and parents. But the achievement test emphasis in the United States in recent years refocused much of early childhood education and challenged the Reggio Emilia way of thinking, raising the question of whether the promise of the Reggio Emilia way of thinking in the United States is real or imaginary.

Montessori

Maria Montessori (1870–1952), Italy's first female physician, opened a Children's House for 4- to 7-year-olds in a lower income housing project in Rome in 1907. Her educational beliefs and values challenged educational tradition—belief in the power of early childhood experience versus fixed intelligence; valuing of intrinsic over extrinsic motivation and sensory experience over behavior and test performance; the view that the teacher is a facilitator and guide rather than the sole source of knowledge for children. Interest in Montessori

resurged in the United States in the late 1950s, first in private schools founded by middle-class parents, then in public schools. Membership in the American Montessori Society or the Association Montessori Internationale is voluntary, and most of the 5,000 Montessori schools in the United States today do not belong.

The Montessori method has five principles:

1. Children are grouped over 3 years of age, 3 to 5 or 6 to 8.
2. Classrooms have tables and desks arranged for individual and small group work, with accessible materials on low shelves, one of each item per child, and open floor space.
3. Children engage in individual and small group work 3 to 4 hours a day and no more than an hour of whole group work.
4. Children are encouraged to cooperate rather than compete. Answers to questions are easily available. Government-required tests are given but are considered of little importance. Instead, teachers rely on careful observation of children in their activities; they are to “follow the child,” as Montessori said.
5. Children are expected to be responsible for materials they use and to clean up after they use them.

A Montessori classroom is a prepared environment, in which the teacher sets a calm tone and matches children to high-quality materials and real, working, child-sized tools. Children want the freedom to do things themselves, leading to development of self-discipline. They have predictable routines. Classrooms have plants and gardens and are clean, colorful, and harmonious. They include but are not limited to Montessori didactic materials, such as the pink tower of cubes and cylinder blocks, which are used in one correct way and are self-correcting so children can use them independently. The teacher is a scientific pedagogue who observes children, redirects disorderly ones, presents brief lessons on how to use didactic materials that

interest children, lets children use materials to learn actively, leads large groups, keeps records, and stays in touch with parents. Community life and interaction are encouraged and supported. Curriculum areas include practical life, sensorial materials, language, mathematics, music, art, and drama, and cultural subjects such as geography and science.

In some 100 studies of Montessori education, selection bias is a common problem, in which curriculum effects cannot be distinguished from background differences between Montessori children and comparison children. Studies have small samples of children, don't last very long, and lack specificity about curriculum implementation. But it appears, at least in some studies, that Montessori children surpass others in language and mathematics achievement and school attitudes.

Comparisons of Early Childhood Curriculum Models

Whereas all of these curriculum models focus on children's development, strive to be developmentally appropriate, and are more child-centered than traditional schooling is, they were each developed by a different curriculum development group and have their own histories. All provide publications, audiovisual materials, and websites, but they differ in how much teacher support they provide. These curriculum models were developed throughout the 20th century, from Montessori in 1907 to Tools of the Mind in 1993. They vary in how they have addressed curriculum validation: HighScope and Tools of the Mind have received the most rigorous evaluations. Montessori practitioners have generated many studies, and The Creative Curriculum has several. Reggio Emilia sees rigorous evaluation as missing the most important aspects of education, a concern shared to some extent by all these models.

The models have various distinguishing features. Montessori downplays fantasy play, whereas Tools of the Mind emphasizes it. HighScope features the plan-do-review process and key developmental indicators. Reggio Emilia emphasizes children's

artistic expression. The Creative Curriculum focuses on positive relationships and purposeful play.

Early childhood curriculum comparison research began with Head Start in the 1960s. Concern about sustaining Head Start effects led to the federal Project Follow Through for kindergarten through third grade. Both Head Start and Follow Through engaged in planned variation of curriculum models, looking at the effects of various curriculum models. Such large-scale research readily reveals the limitations of design and measurement that make it difficult to draw simple conclusions. The Planned Variation Head Start Project in 1969–1971 found similar cognitive effects across various models and much variation within models across sites. Follow Through lasted from 1968 through 1995. Model effectiveness varied substantially from site to site. Models that focused on direct instruction in basic skills tended to build basic skills better than models that focused elsewhere.

Three experimentally designed longitudinal studies of early childhood curriculum models began in the 1960s—one at HighScope, another at the University of Louisville, and another at the University of Illinois. All three studies found that children in direct instruction programs outperformed children in traditional and other programs in intellectual performance during the program and up to a year afterward, but then this difference disappeared. In the only one of these studies that lasted to age 23, the HighScope group had numerous significant advantages over the direct instruction group, including fewer requiring treatment for emotional impairment or disturbance during schooling and fewer arrested for a felony or property crime.

From 2003 to 2007, the U.S. Department of Education funded a large study of 14 preschool curriculum models for children in low-income families. Each grantee implemented its curriculum and tested curriculum effects with randomized field trials against prevailing curricula in the schools. Eight of the 14 treatment curriculum models had a positive effect on prekindergarten classroom instruction, compared to their control curriculum models. Only one—DLM Early Childhood Express

supplemented by Open Court Reading Pre-K—had effects on children's language and literacy skills in the prekindergarten and kindergarten years. Pre-K Mathematics supplemented with DLM Early Childhood Express had effects on children's mathematics skills in the prekindergarten year only. Curiosity Corner and Early Literacy and Learning Model had effects in the kindergarten year but not in the prekindergarten year. The results of the study are disappointing. Perhaps pitting different models against each other on how much they contribute to children's literacy, mathematics, and social skills is not the best way to compare them.

Lawrence J. Schweinhart

See also Child-Initiated Learning; Constructivist Curriculum; Creative Curriculum, The; Developmentally Appropriate Practice; Direct Instruction; Emergent Curriculum; HighScope; Models; Montessori Programs and Environments; Parents as Teachers; Pedagogical Knowledge; Play, Curriculum, and Pedagogy; Program Formats and Schedules; Project Approach; Project Spectrum; Reggio Emilia Approach; Standards-Based Curriculum and Assessment; Teacher-Directed Learning; Tools of the Mind; Waldorf Education

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DATA-BASED CHILD ADVOCACY

In recent decades a greater number of child advocates have begun using statistical data to improve the lives of children. At the same time more researchers and data analysts are using statistical data to provide a richer and more detailed understanding of children's lives. Combining data, statistics, and scientific evidence with efforts to improve the quality of life for children and youth is called *data-based child advocacy*.

This entry provides an overview of the emerging area of data-based child advocacy and describes why data-based advocacy is so important for children. It includes a list of activities that fall into the data-based child advocacy category and highlights the benefits of this new conceptual framework.

Background

The collection and use of statistical data and social indicators related to children has exploded in recent years. Measuring children's well-being is of growing importance to policy makers and people striving to improve the lives of children.

Data-based advocacy is more important for children in general and young children in particular than it is for other groups. Many groups trying to influence government policies and programs have significant political power because they can provide significant financial support for political

campaigns and influence how their members vote. Those with less political power, such as child advocates, must depend on an "outsider strategy," which includes appeals to the general public through research, press conferences, and use of media. Data are often critical for such efforts.

Data-based child advocacy may be more important for younger children than for older children. Older children (teenagers) often have the means to speak for themselves. In addition, researchers are able to use responses from older children to gather data on topics such as subjective well-being. Younger children typically are unable to voice their concerns and unable to respond to many researchers' questions. It is also worth noting that the youngest children are often the most disadvantaged. For example, children from birth to age 4 have higher poverty rates than any other age group.

Types of Advocacy Activity Using Child Indicators

Data-based child advocacy-related activities can be described and clustered many different ways. William O'Hare identifies six different kinds of data-based child advocacy activities (O'Hare, 2014b, p. 5):

1. Increasing public awareness about child well-being
2. Making data on children more easily available

3. Advocating for more and better data on children
4. Monitoring child well-being
5. Goal setting for child well-being
6. Evaluating programs and policies related to children

Many groups and scholars are already engaged in a lot of these types of activities, but it is seldom explicitly identified as advocacy. One of the obstacles to recognizing the use of child indicators in advocacy is the narrow view of advocacy. Carol De Vita, Rachel Mosher-Williams, and Nicholas Stengel (2001) state, "The term 'advocacy' is often considered synonymous with 'lobbying,' but such a narrow definition captures only one function in a much broader set of advocacy activities" (p. 4). Data-based child advocacy is often about elevating public understanding and awareness of problems and issues facing children rather than focusing on a specific piece of legislation or a specific policy.

Data-based child advocacy involves many different types of professionals and organizations from numerous arenas. It has been fostered and enhanced by work in philanthropy, international organizations, government agencies, civil society, nonprofit research organizations, and academia. It has involved a diverse mix of scholars, scientists, researchers, policy makers, journalists, advocates, and practitioners and many different scholarly disciplines (sociology, psychology, demography, social work, statistics, law, and public policy). This rich mix of providers and users often means this work does not fit neatly into existing conceptual frameworks.

Communication Issues

An Organisation for Economic Co-operation and Development publication highlights why communication is such an important topic for data-based child advocates: "When good statistics exist, they too often go unnoticed or misunderstood by a broad audience" (Giovannini, 2008, p. 14). Reaping the full benefits of data-based reports and research often requires strategic use of mass media.

Data-based child advocacy often requires that scholars and researchers communicate with public audiences who differ from scholarly audiences on two key points. First, academics and scholars typically read an article on children because they are already interested in the topic. Public audiences, on the other hand, are not necessarily interested in child well-being, so writers must capture their interest. Second, scholars and researchers are comfortable with science, statistics, and data, but a large segment of the public are unfamiliar with scientific principles and uncomfortable with statistics.

Integrating solid scientific evidence and statistical data with communication expertise is very important in terms of effectively reaching a mass audience. But this can be vexing to participants because there is a clash of cultures between data experts and communication experts. For example, scholarly writing almost always includes caveats and cautions about the results, but in writing intended for nonscholars, including a long list of caveats can be seen as undermining the veracity of the report.

Conclusions

Data-based child advocacy has been growing because it is an effective tool to help child advocates and researchers reach their goals of getting good data into the hands of users and improving child well-being.

William P. O'Hare

See also Early Childhood Research and Policy Linkages; Effective Advocacy Practices

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DEFINING EARLY CHILDHOOD EDUCATION

An explosion of research over the past several decades offers much to learn about what is needed to support optimal development for young children. This entry first reviews the major understandings about development that inform and define early childhood education. It then describes key elements of high-quality early childhood education programs.

How Young Children Learn

From developmental psychology we have learned that active experiences are the trigger that enables children to organize their brains to support the challenges they meet. What this means is that during the early years of life, young children make sense of new concepts and ideas through active engagement with materials, ideas, and relationships. What adults often refer to as play—block play, dramatic play, singing, dancing, painting, drawing, and so forth—is really the work that children do to make sense out of the world. Jean-Jacques Rousseau, Jean Piaget, Lev Vygotsky, and others have theorized about this for some time, but recent developments in brain-based research have added other important dimensions to our knowledge.

Neuroscience's neuroimaging technologies have revealed how neural connections are formed and have confirmed that, during the early years of life, the development and collaboration of processing systems in the brain are enhanced by the play that young children do. In fact, we now know that children are born “wired” to learn. At birth, the brain possesses more than 100 billion neurons. During the first year of life, it evolves more rapidly than at any other time. By the age of 3 years, 75% of the brain's growth appears; by the age of 5, more than 90% is formed and a foundation is laid for all kinds of competencies—linguistic, conceptual, ethical, social, emotional, and motor. All of these critical dimensions of early development are intertwined in the architecture of the brain, forming a foundation that will shape all future capacities to learn.

New imaging technologies have also demonstrated how affective aspects of children's lives—such as the presence of relevance, interest, enjoyment, good relationships, and feelings of safety and self-efficacy—are critical supporters of learning. The technologies also point out how stress, boredom, confusion, low motivation, and anxiety can interfere with learning. Other research in the social sciences has led to additional understandings about the link between cognitive and social development, and how close and dependable

early relationships promote optimal development. When children do not have such a nurturing environment—or at least one close and dependable relationship—their development can be seriously disrupted.

Even the vocabulary that young children possess is affected by family and life circumstances. A study on language development conducted by researchers Betty Hart and Todd Risley in the 1990s revealed that children growing up in well-resourced families and communities had been exposed to 32 million more words and had significantly larger vocabularies by the time they were 4 years old than those who grew up in less-resourced families and communities.

The research is thus clear that learning is not just a cognitive and physical process but also a social and emotional phenomenon that, in turn, impacts all aspects of growth. Emotions, social relations, and cognition are interwoven. The research is also clear that development does not proceed in a uniform, one-size-fits-all manner. Rather, different children bring different strengths and intelligences to the learning process. They develop at different paces and in different ways. Diversity and variation are the norm.

Quality Early Education and Care: Turning Knowledge Into Action

The educational implications of these understandings are also clear: Children are more successful when they are healthy, physically and emotionally; when they are provided with broad, challenging, and engaging experiences; when they feel connected to the people in their school and broader community; and when schools are safe and trusting places. For young children, this specifically means providing quality cognitive stimulation, rich language environments, and the facilitation of social, emotional, and motor development in the context of good physical care and warm affective relationships. Such quality, caring environments improve social and intellectual competence and the ability to take advantage of subsequent learning opportunities. Some indicators of what this looks like are discussed next.

Attention to the full range of early development in programs that care for and educate young children. High-quality early childhood education pays attention to the full range of factors that impact the health and well-being of not only children but also their families. The knowledge base on young children's emotional, regulatory, and social development is translated into effective strategies for fostering (a) the development of curiosity, self-direction, and persistence in learning situations; (b) the ability to cooperate, demonstrate caring, and resolve conflict with peers; and (c) the capacity to experience the enhanced motivation associated with feeling competent and loved.

High-quality teaching practices and curricula. Teaching practices, curricula, and assessments in high-quality programs are guided by what is known from research about children's thinking and their learning. Special attention is given to approaches that help children from different cultural and linguistic backgrounds, different developmental levels, and different learning styles and strengths. Here are some descriptions of what this looks like:

- Curriculum is based on meaningful and purposeful experiences that utilize the active multimodal nature of young children's learning, such as interdisciplinary studies that include such varied activities as investigations, projects, experiments, and trips.
- Classrooms are provisioned for hands-on learning, with objects that can be manipulated to understand mathematics, natural materials for science investigations, supplies for explorations in the arts, well-stocked libraries, and areas for dramatic play and block-building.
- Schedules for the day include ample opportunities for children to have time for play, that is, the work of early childhood that enables them to construct and consolidate understandings of their experiences and the knowledge and skills to which they have been exposed.
- Literacy-rich environments are in place that involve lots of reading to, with, and by children; lots of talking and listening to and with children;

and lots of opportunities for children to engage with print in natural contexts. Opportunities for children to engage with print can include making signs for the block buildings they create, documenting science experiments, reading recipes for cooking, making charts to review class learning, writing letters, and designing books.

- Explicit attention to skills and knowledge is embedded in active learning contexts rather than instructing through isolated drill. This can include learning letter–sound correspondence through rhymes, games, and chants rather than worksheets; developing a sense of number through everyday activities such as passing out snacks, lining up for recess, talking about number concepts in story books, playing games, and engaging in activities with manipulative materials rather than through rote counting of symbols.

Assessment that informs instruction. Key to carrying out curriculum that is responsive to and supportive of learners’ understandings is using assessment to inform teaching. Quality early childhood programs assess young children through instruments that best reflect information about their progress and use these to inform and guide further teaching.

Multiple forms of evidence collected in the context of natural learning environments offer the most authentic feedback about how and what young children are learning. Many professional associations, such as the National Association for the Education of Young Children, the National Association for Early Childhood Specialists in State Departments of Education, the National Association of School Psychologists, and the National Research Council, support the use of observational assessments while opposing standardized testing for young children as inappropriate and unreliable measures of their learning. Observational assessments can include interview protocols, checklists, and descriptive notes; performance tasks; collections of children’s drawings and writings; as well as photos and/or videos of children at work in the classroom. The information drawn from these instruments can be assessed in

relation to learning continua that describe the progression of children’s skills and knowledge along a trajectory of development. Analysis of these data acknowledge the natural variation of multiple, mutually interdependent domains of growth (i.e., rather than requiring targets that all children must achieve at the exact same time, children’s progress should be noted in relation to “reasonable expectations” of achievement established for children at different ages). Tools like these can be used to aggregate information for accountability purposes. They are also educative for teachers, children, and their families because they offer images of developmental pathways toward the attainment of important skills and knowledge.

Conclusion: Early Education and Care Matter

The research literature on development and learning and on early childhood education and care suggests that the quality of care children receive in their early years is critical to ensuring that they experience a life of personal fulfillment and economic success. There is also consensus that “quality” is signified by a relationship between child and caregiver in which the adult is responsive to the active nature of the child and the full range of the child’s needs—social, emotional, physical, as well as cognitive—that influence development. Laying the foundations to support young children to meet the challenges of 21st-century skills and expectations can best be accomplished by providing them with opportunities that will ignite their curiosities, use their minds well, build their capacities to self-regulate, nurture their intrinsic motivation, and enhance their feelings of self-efficacy.

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See also Early Childhood Education; Early Childhood Research and Policy Linkages

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DEFINITION OF PLAY

See Play, Definition of

DEPLOYMENT AND PARENTING

The first decade of the 21st century saw the United States involved in simultaneous wars in Iraq and Afghanistan. These wars involved the participation of more than 2.2 million service members, with deployments involving both active duty (“regular”) military personnel and a substantial number of National Guard and Reserve service members.

In 2009, approximately 1.98 million children had one or both parents in the military. Thus, a substantial number of children have been affected by the deployment of one parent, and sometimes two parents simultaneously, and by the anxiety and uncertainty associated with having loved ones in harm’s way. A small but growing body of empirical literature has documented children’s adjustment during and following deployment, as well as the influence of deployment on service members’ well-being and their parenting. Although more longitudinal studies are needed to examine how children are most affected, which children are most vulnerable, and through what mechanisms deployment affects children, the current state of the research literature suggests that deployment is a potential risk factor for children’s emotional and behavioral problems.

Moreover, a growing body of research suggests that the impact of deployment on parents (both those who are service members and their non-deployed partners) also extends to children. For example, sequelae of combat such as post-traumatic stress disorder, substance abuse, depression, and traumatic brain injury affect a parent’s capacity to parent effectively. Children, then, may be both directly and indirectly affected by a parent’s deployment. They may be directly affected by the anxiety and worry for the deployed parent and indirectly affected by the difficulties in parenting that may be experienced by the returning service member as she or he reintegrates into family and society. Parenting difficulties may be compounded when a parent is dealing with physical and/or psychological injuries sustained in war. Thus, while the very fact of a separation from a child is

stressful to parent and child alike, the additional stressors associated with exposure to combat may add to the family readjustment and reintegration challenges in the year or more following the return home.

Family stress models suggest that family transitions increase risks for children's maladjustment via the negative impact of these transitions on parents and parenting. Gerald Patterson's social interaction learning model describes how stressed parents become more coercive in their interactions with their children. Children exposed to, and engaging in, coercive interactions (i.e., escalating negative interactions and aversive behaviors that are negatively reinforcing) learn that coercion is a way of life and in turn model these coercive interactions, increasing the potential for behavioral and emotional problems.

Fortunately, a large body of literature has demonstrated that stressed parents can benefit from evidence-based parenting programs. The parent management training–Oregon (PMTO) model, which is empirically derived from Patterson's social interaction learning model, has demonstrated efficacy and effectiveness in improving parenting and child outcomes for a range of populations experiencing family transitions.

After Deployment, Adaptive Parenting Tools (ADAPT) is an adaptation of PMTO for military families and represents the first research-based parent training program for military families with school-age (4- to 13-year-old) children. ADAPT may be delivered as a 14-week multifamily group program, as a self-directed online program, or in an individual telehealth format (online plus a facilitator available via Skype). ADAPT integrates the core components of PMTO: positive involvement with children, teaching through encouragement, family problem solving, effective positive discipline, and monitoring and supervision. In addition, ADAPT provides a strong set of skills in emotion socialization and emotion regulation—helping parents to respond to their own emotions and to teach their children effective tools for learning about and regulating emotions, using mindfulness and emotion coaching strategies.

As of mid-2015, ADAPT was being evaluated in two randomized trials with mostly National Guard and Reserve families. In the first trial, 336 families were randomly assigned to ADAPT or services as usual; in the second trial, for which recruitment began in summer 2015, 360 families were to be assigned to one of the three formats of ADAPT to test the comparative effectiveness of each format. Preliminary data from the first trial suggest that the program is both engaging and effective in strengthening parenting and family relationships: Mothers and fathers participated equally and at high rates, reporting strong satisfaction with the program. Following the end of the program, parents in the ADAPT group reported stronger couple relationships, better observing of emotions, and higher parenting efficacy and self-reported effective discipline than parents in the services-as-usual group. At 1 year post-baseline, families who went through ADAPT reported their children to have fewer adjustment problems, mothers' observed parenting was significantly better, and observed parenting of fathers and mothers was significantly better among those who showed poorer parenting at baseline. Families in this trial were to be followed for 2 years; complete outcome data for the sample are expected by late 2016.

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See also At-Risk Families; Behavior Disorders; Military Child Development Centers; Military Families, Children in; Parenting Support and Education

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DETERMINANTS OF CHILD DEVELOPMENT

Biological, social, economic, and environmental factors interact with the child, the family, the community, and the broader sociopolitical and historical contexts to determine a child's development. Theoretical frames of reference for understanding how these factors interact include Urie Bronfenbrenner's ecology of human development and sociocultural theories such as the work of Lev Vygotsky. Research has demonstrated relationships among developmental determinants to explain developmental pathways for children.

Theoretical Models of Developmental Determinants

According to Bronfenbrenner's theory of ecological development, human development occurs through increasingly complex reciprocal interactions between the child and the people, objects, and symbols in the immediate external environment. Intraindividual factors include each person's dispositions; their abilities, experiences, knowledge, and skill; and their personal characteristics that invite or discourage reactions and interactions from the social environment. Bronfenbrenner's ecological model consists of a series of structures, beginning with the microsystem, the person's immediate setting, and the mesosystem, the relationships between the settings. These proximal forces that act within the microsystem and mesosystem exert the strongest influence on development; however, they must interact with and on the child on a regular basis over an extended period of time to affect development.

Interactions from the macrosystem, such as the broader cultural values and beliefs that permeate societies in which development occurs, and exosystem, or settings in which the developing child is not directly involved but is affected, influence the proximal forces to further impact developmental trajectories and pathways. The extent to which proximal forces produce development varies with the characteristics of the

developing child, the immediate and more distal environmental contexts in which the processes are taking place, and the particular time periods in which the processes take place.

Processes

Developmental determinants are biological, socio-cultural, and environmental factors that interact across spheres of influence such as parenting, socioeconomic status, and community health and resources. These spheres of influence contribute to trajectories that open pathways along which development proceeds and they continue to affect development over time. Pathways are both individualistic and interdependent, embedded within cultures, and parts of larger sociocultural systems. As determinants change as a result of positive interactions or "investments" and interventions, trajectories onto new pathways may emerge.

At every stage of our lives, factors associated with social advantage or disadvantage determine developmental pathways and outcomes as they accumulate over time to create favorable opportunities or daunting obstacles to development. Interventions early in life can interrupt unfavorable cycles associated with social and economic disparities within the macrosystem, the employment conditions in the exosystem that affect family health and well-being within the mesosystem, and childhood development in the microsystem. Over time the cycle is expressed in the chronosystem, a part of Bronfenbrenner's model referring to the changes in society over time that affect the individual, in terms of the adult's health and well-being.

Determinants of Development

Determinants of child development include the biological endowment of the child as determined by the child's genetic makeup, the culture, and environment in which the child lives. Together, these forces interact to create potentials or pathways along which the child will develop. Social determinants of child development refer to the family's access to income, goods, and services that include health care, education, employment, and

safe homes and neighborhoods. Environmental determinants include the physical, chemical, and biological factors external to people that impact their development. Access to clean air and water and safe and healthy workplaces, homes, and communities determine potential pathways for healthy development.

Biological Determinants

Biologically based determinants of development are laid within the genetic material of each child and are affected by the quality of prenatal care and health of the mother prior to birth to set the parameters for physical, social, emotional, and cognitive development. However, physiological, psychosocial, and environmental influences further affect the child's potential development. For example, physiological development is dependent on securing nutritional foods to support bodily growth and functioning that leads to health. To that end, the infant must be able to communicate and receive nutrition from the mother. As the infant receives nutrition from the mother and the mother responds with appropriate nurturing attention during feeding, this joint participation can lead to healthy attachment that supports brain functioning as well as behavioral adaptation for participation within the family and community.

Healthy attachment to a primary caregiver is a developmental determinant that has been linked to the child's overall physical health and well-being, to cognitive and language development, and to social-emotional development. Affecting healthy attachment is the goodness of fit between the child's temperament and that of the primary caregiver. For the mother to bond with her child, she must sense that her efforts to respond to her child and to elicit positive attention are met with a child's positive attention returned to her. The ways that mother and child contingently initiate and respond to one another support the development of healthy attachment bond between them. As the nurturing relationship is created and sustained, there are increased opportunities for playful physical interactions, social exchanges involving language, and cognitive stimulation. The accompanying

sense of well-being leads to the development of the infant's mental and emotional health, creating a pathway for optimal child development. However, when the child is not responsive to the mother's attempts to soothe or interact or the mother is incapable of positive interactions because of stress, depression, or ill-health, then the formation of the attachment bond is at risk. As a result, infants may become withdrawn or anxious, unable to develop trusting relationships that allow them to venture out beyond the immediate care of the parent to explore environments and develop healthy relationships with others. With such a pathway and without intervention, there are significant risks for physical and mental health outcomes that can extend into adulthood.

Furthermore, environmental factors affect the quality of life in ways that also affect the child's development. Access to clean water, an adequate supply of nutritious food, and protection from environmental toxins are examples of factors that support healthy development. Taken together, the interactions among the child's biological endowments with the physiological, psychosocial, and environmental demands of life can lead to the development of autonomy and social participation.

Social Determinants

Social determinants of child development include parental/family income, education, and employment that, taken together, impact socioeconomic status and affect access to health care, quality early learning programs and schools, and safe housing and neighborhoods. These determinants emerge from the unequal distribution of power, income, goods, and services to differentially affect developmental trajectories, pathways, and cycles. Parental social and economic resources can affect the quality of their relationships with their infants and young children. If parents are to provide for the healthy development of their children, they need access to adequate financial resources to meet the basic needs of food, clothing, and shelter, as well as social networks of support for those facing parenting stress and mental health issues.

Family Resources. Family resources are correlated with children's health and behavioral, emotional, and cognitive outcomes. They include income, time, human capital, psychological capital, and social capital. The impact of globalization has negatively affected family resources in that incomes have been reduced and subsequently, capacity of communities to invest in infrastructures that support and promote child development have been reduced.

Family Income. Factors associated with family socioeconomic status include employment, income, and education. Taken together, these factors affect the family's ability to access resources that support the healthy development of their children. Family income is directly related to the family's ability to acquire shelter, food, clothing, and health care. For families with limited incomes, stressors associated with poverty can exacerbate challenges parents face with rearing children. Poverty stressors negatively affect satisfaction with parenting roles and responsibilities. Parental mental health issues (such as anxiety and depression) and ability to provide healthy food, safe housing, and adequate clothing interact to negatively impact parenting, creating barriers to healthy development.

For families in poverty, developmental outcomes are reflected in limited material resources available in the home to stimulate language and cognitive development and in the limited psychosocial resources available to parents for providing stimulating experiences as a result of stressors associated with trying to provide for basic needs. As a result, children from lower income families tend to lag behind their peers from middle and upper income families in vocabulary development and cognitive skills. The inability of parents living in poverty to provide intellectually stimulating materials (e.g., toys and books) and experiences (e.g., high-quality care and early learning programs) can lead to these parents being less responsive to their children, further affecting cognitive and language development.

Low income is also associated with lower parental education, further affecting their understanding of how to access available resources and

provide the kinds of attention that engages their children in conversations, experiences with books, and community resources that can mediate the adverse effects of poverty. Additional factors associated with poverty and socioeconomic disadvantage include childhood mental health problems, overweight and obesity concerns, and child abuse and neglect.

Further compounding the negative effects of poverty on developmental outcomes is the impact of psychosocial and material circumstances as early as conception that embed themselves in the child's biology through the process of neural sculpting that affects brain development. Families with lower socioeconomic status, maternal education, and family income are also more likely to have poor nutritional status that reduces overall caloric intake, minimizes the specific nutrients necessary for central nervous system functioning, and can result in increased chronic health conditions such as asthma. They are more likely to live in neighborhoods that contain sources of lead, PCBs, and other toxins that impair cognitive functioning. They are more likely to provide home and child care environments that provide less cognitive stimulation, further limiting cognitive development. Access to health care for comprehensive developmental screening to detect early developmental delays and regular check-ups to secure timely immunizations and preventive care is more limited for families with limited economic means.

Although there is considerable variability among children from low-income backgrounds, bidirectional influences, particularly between mother and child, have been found to influence development in these domains. Some parents living in poverty are able to successfully overcome the limitations and barriers they face by actively seeking out resources within their systems of support to alter developmental pathways for their children.

Time. As a result of the global economic downturn, shifts in employment patterns from steady full-time employment to part-time or contract employment and weekend and night shift schedules have affected the earning capacity of families. In addition, these shifts in working schedules can

create increased work-related stress and undermine stability of marriage and family cohesiveness by reducing opportunities for families to spend time together, share in family-related activities, and participate in community social networks. Such nonstandard employment is also associated with poor educational outcomes for children.

Family Composition. Shifts in family composition are associated with impact on family resources. More single-parent families, more women in the workforce, and more grandparents as primary caregivers impact child health and development by interrupting the proximal processes and altering parental resources. Although many single parents build networks to manage child care and extend supportive relationships for themselves and their children, many children experience discontinuity and unpredictability in establishing trusting relationships, particularly with adults. Such relationships are necessary for children to become autonomous and socially competent individuals. Family composition is correlated with outcomes in physical development and health, mental health, academic achievement, and self-regulated behavior.

Parenting Styles. A consistently responsive parenting style is associated with the trajectory for a positive developmental pathway and remains significant in maintaining healthy development. Positive reinforcement, displays of warmth and affection, and the use of authoritative parenting approaches in which parents explain reasons for discipline have been associated with positive academic competence and peer relationships that lead to enhanced child health, well-being in the social-emotional domain, and development of cognitive abilities. Such positive approaches to parenting can mediate the adverse effects of poverty for children; however, the ability of parents to provide positive parenting is made more difficult by factors such as limited incomes, unemployment, and depression. Such chronic stressors are associated with increased incidences of child abuse and neglect, creating additional barriers to healthy development.

Neighborhood and Community Influences. Factors within neighborhoods and communities that determine children's development include exposure to unsafe social and psychological conditions, social organizations with role models and shared values, institutions such as schools and community services, and formally and informally organized peer groups. Influences from the neighborhood and community in terms of cohesion and shared concerns for safety as well as more formal resources available to support families such as community-sponsored activities and opportunities for physical activity on playgrounds can serve to mediate the limiting effects of family income for offering enriching experiences and can provide additional support for families by extending social networks, thereby ameliorating some of the disadvantages associated with poverty.

Access to High-Quality Early Care and Learning Environments. High-quality early childhood programs have been shown to act as investments and effective interventions in determining positive developmental outcomes. Working in concert with families to provide enriching learning experiences that extend the scope provided by parents, early childhood programs that target the acquisition of social and emotional skills as well as stimulating cognitive and language development maintain the positive trajectories of children on a pathway of healthy development.

For children whose families have limited economic and social resources, high-quality early childhood programs like the Perry Preschool project, the Chicago Child-Parent Center program, and the Carolina Abecedarian Project have been found to be effective interventions that address the short-term outcomes in all developmental domains and over time, to maintain a positive pathway in terms of educational completion, successful entry into the workforce, and less dependence on social welfare programs.

Environmental Determinants

Environmental determinants of development affecting the individual child's trajectory include

the physical, chemical, and biological factors external to the child that can impact development. Environmental toxins that include air and water pollution, lead and asbestos, and neighborhood crime all affect the level of health and safety within the home, community, and workplace to negatively impact living and working conditions. Families and children from poverty are the most vulnerable to these environmental factors. Set within the context of the macrosystem, the policies that are put in place to manage pollutants and adopt cleaner, more sustainable energy technologies and water sources address the negative impact of pollution and environmental toxins while simultaneously promoting healthy development. Within the exosystem, the implementation of policies and practices that eliminate environmental toxins present in low-income housing (e.g., lead, asbestos) improves the quality of life.

Investments and Interventions

Although the determinants, present at birth, set trajectories along particular pathways of development, many can be modified in ways that shift the trajectory to paths that become increasingly positive or negative. From the distal macrosystem and exosystem to the proximal mesosystem and microsystem, investments and interventions provide the necessary support for proximal systems to act and react to offer the most positive interactions that establish pathways for healthy development. Ongoing supports can build a cycle of positive development over time. However, emergence of chronic disease, serious physical injury, and loss of family income are examples of determinants that can shift pathways in negative directions.

One pathway that fosters children's development includes parental education and employment that provides the financial and psychosocial resources to access adequate food, housing, and medical care. As a result, parents are able to invest resources in stimulating materials and experiences, high-quality early childhood care and education programs, and safe neighborhoods that further support healthy development. However, many

lower income families have limited resources for investment. Economic hardships are associated with limited access to preventive medical care, nutritional foods, and safe, affordable housing. Such hardship also creates stress that is associated with poor mental health, interparental conflict and family disruption, poor parenting skills, and child abuse and neglect. Interventions to address these developmental determinants can serve to shift the trajectory from risk to promise. Such interventions may be provided through publicly or privately funded programs and may occur as individual, focused interventions (e.g., employment programs, food stamps, housing vouchers) or more comprehensive measures that include health, mental health, social services, and education/job training components (e.g., Head Start).

Teresa Harris

See also At-Risk Families; Economic Status and Geographic Influences on Development and Learning; Family Strengths; HighScope Perry Preschool Study; Parenting Effects on Child Development; Poverty Effects; Prenatal Mental Health; Temperament; Warm and Responsive Interactions

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DEVELOPMENT OF PREJUDICE

The existence of prejudice among adults is well-documented in academic research but is also evident to the casual observer in everyday life and in conflicts around the world. But do *children* experience and express prejudice? How does this develop with age? What is driving its development? And what does this mean for tackling prejudice in the early years?

In the past 80 years researchers have been intrigued by, and compelled to study, the expression and development of prejudice in children. Research in this area has tended to focus on ethnic and racial prejudice and also on the views of majority group children. This entry reflects this bias in the research but also describes the (limited) research on prejudice in young members of minority groups.

Prejudice in Children

Prejudice can be defined as attitudes, feelings, or actions toward members of a group that imply negativity or hostility toward that group. This could include biased attitudes, hostile feelings, and discriminatory behavior toward a group in general or toward individual members of that group. Prejudice can be based on group memberships such as race, ethnicity, language, disability, sexual orientation, nationality, or even “minimal groups” (new and arbitrary groups created in experiments) and teams. Some research has uncovered overt, hostile prejudice in children, but researchers more often focus on bias. This is a preference for or favoring members of one’s own group compared with another group. Although this may appear relatively benign, researchers regard such behavior and attitudes as problematic, because members of other groups will always lose out relative to children’s fellow group members. This maintains segregation, stereotypes, and negative relations between social groups.

Landmark research in the development of prejudice in children was conducted by Eugene Horowitz and by Kenneth Clark and Mamie Phipps Clark in the 1930s and 1940s. Their compelling research findings have inspired 70 years of subsequent study, and the methodology has provided a blueprint for research in this area. In this early research, conducted in the United States, children were presented with either dolls representing Black and White racial groups or photographs of White and Black children. Typically children were then asked which doll or photo looked most like them. They were also asked questions designed to tap into their preference for, and attitude toward, their own (or the other) racial group. For example, children were asked which doll they would like to play with and which one they liked the best. This early research showed that from a very young age (preschool), White children identified with the White stimuli. They also showed a clear own race bias as they were more likely to select the White stimuli as the one they liked best and wanted to play with. Black children, on the other hand, and in particular very

young children (3 years old), were more likely to self-identify with and prefer the *White* stimuli.

Numerous subsequent studies have replicated these findings with majority group children in different countries, different ethnic groups, and different historical and sociopolitical contexts. Research has shown that prejudice and bias can manifest themselves in numerous ways in childhood, including resource allocation of stickers or sweets, choice of playmate, positive and negative evaluations, social distance, interpretation of ambiguous situations, and desire for future interaction. In addition to race, ethnicity, and gender, there is also evidence of prejudice and biased attitudes and behaviors based on body type and disability.

Importantly, whereas this finding is relatively consistent among children belonging to the majority social status group, findings among children belonging to minority status groups are more varied, but it appears children in these groups are more ambivalent toward their group and do not always show clear bias toward their own group members, particularly in preschool and in the early school years.

Researchers have also used artificially created groups to try and learn more about the development of prejudice in children. These studies typically randomly assign children to arbitrary groups or teams and physically demark group membership through colored T-shirts, for instance. Research has shown that even these arbitrary and superficial group memberships lead to bias. For instance, Rebecca Bigler and colleagues showed that when children are placed in groups based on T-shirt color for just 6 weeks, children evaluated their own color group more positively than the other group and preferred playing with members of their own color group. Similar results have been demonstrated in other contexts, such as team games or drawing competitions. These groups have no historical context, are short-lived, and are superficial. Yet children use them to make decisions about who they want to play with and how they evaluate other children. Furthermore, threat, competition, and strength of attachment to the group all heighten the effect of group membership on children's evaluations of their own and other groups.

Developmental Trajectory of Prejudice in Early Years

The majority of research has shown that among majority group children, racial bias first appears at an early age (as young as 3 years). This preference for one's own racial group rises, along with negative views of other racial groups, until approximately 7 years of age, when it peaks, before it gradually declines. This pattern of findings has been demonstrated in many studies in the United States and in other countries. These studies have tended to focus on racial prejudice, because of the context of the research. Other forms of prejudice, toward other nationalities for instance, seem to show a different developmental pattern and may appear later, whereas gender bias can appear very early in children from 2 years of age and continue beyond 7 years of age. Less is known about developmental trends of bias among minority status children, and research to date suggests variable patterns of development, where very young children may favor the high-status racial group and older children may show more ambivalence toward their own group.

Drivers of Prejudice Development in Children

Intuitively, many people would argue prejudice in children is a result of socialization by sources such as parents, peers, and the media. From a psychological perspective, the socialization of such attitudes could be direct, through modeling of behaviors, imitation of them, and reinforcement, or more indirect, where children merely observe typical behaviors and attitudes (like observing little interaction between one's own group and others) and integrate these in their own repertoire.

The lack of representation of minority groups and the presence of cultural stereotypes in children's media is well-documented. However, we know less about the link between this and children's attitudes. Research suggests that carefully designed children's TV programs and story books depicting cross-group friendship can have an impact on children's attitudes, but the long-term

effect is unknown, and the effect on hostile and extreme prejudice may be more limited.

The other main source of influence, particularly in early years, is parents. Although findings are mixed, a recent review concluded that children's attitudes are linked with those of their parents. However, there are a number of important caveats to keep in mind when considering this finding: It is possible that children's attitudes and parents' attitudes are both products of the same social context (e.g., they both live in a highly racially segregated society). That being said, recent research has attempted to examine more closely the process by which parental socialization of racial attitudes occurs. Luigi Castelli and colleagues' research has linked (ethnic majority White) parents' *unconscious* racial attitudes and their *nonverbal behavior* in interactions with racial out-group members (e.g., eye gaze, body language) with children's racial attitudes. In their research, it was found that young children use nonverbal cues by adults in interracial interactions to determine the extent to which the adults enjoy that interaction, and this then influences children's attitude toward a new, "Black" person they are asked to evaluate. Other research has shown that (majority White) children's racial attitudes are linked not with parents' attitudes but with the number of interracial friendships held by parents. In summary, the findings on the link between media, parents, and children's racial attitudes are mixed. However, it seems that children may pick up on cues about how typical and positive interracial interactions are and use this to inform future evaluations of members of other racial groups.

An alternative approach to the development of prejudice in children links racial attitudes to children's cognitive, social, and affective development. The most prominent of these theories is Frances Aboud's social cognitive developmental theory. This perspective suggests that prejudice in children is a result of their cognitive mind-set, which provides a lens through which children organize, process, and assimilate information. According to this approach, the increase in prejudice observed in children from preschool to 7 years of age can be explained by achievement of

well-established cognitive abilities (e.g., conservation, constancy), knowledge of stereotypes, and a change in preoccupation with the self (in young children) to groups (from 5 years up) as children need to use groups to make sense of their social world. These changes in cognitive ability, preoccupation with physically salient groups, and increased awareness of stereotypes explains the observed peak in prejudice at the age of around 7 years. This is followed by a decline in prejudice as children focus again on the individual, begin to understand variability within groups, and stereotypes are broken down. There is some support for these approaches in general: They are thought to be valuable, as they allow the child a more active role in the development of their attitudes. Also, some research has linked perspective taking, conservation, reconciliation of attitudes, constancy (the understanding that social groups are constant over time), and ability to group people together in multiple ways to prejudice and bias in children. However, findings are mixed and this approach has been criticized for ignoring the important role of parents, peers, and social context in shaping children's attitudes.

More recent research on prejudice development in children has highlighted the importance of the strength of children's identification with the social identity in question (e.g., ethnic identity) and (peer) social norms for the expression of prejudice and bias.

Practical Applications

Overtly negative attitudes and discriminatory behavior toward members of other groups are rare in children, as they are in adults. However, bias toward and preference for one's own group is more common; it is also considered to be problematic because preference may lead to behaviors that derogate the out-group and lead to segregation. Research suggests that bias appears very early in ethnic majority children's lives (from 3 years), and bias and prejudice increase to a peak around 7 years of age where they trail off. For ethnic minority children the findings are more mixed, and for intergroup contexts other than

race, such as nationality, findings appear to follow a different developmental trajectory.

So far we have considered a number of drivers of the development of prejudice in children: social context, cognitive abilities, and social identity. These approaches have implications for practical interventions for use with young children. First, it appears that adults' nonverbal behavior, and observing comfortable interactions between group members, is important for propagating positive ideas about intergroup relations and creating positive evaluations of out-group members. Second, the social cognitive approach suggests that children's cognitive abilities (e.g., reconciliation, multiple classification) may limit or shape the impact of attempts to change their attitudes. For instance, children's preoccupation with groups and their inability to recognize variability within group may limit their ability to process information conveyed in educational materials (such as multicultural stories) or information from adults that aims to reduce prejudice and tackle stereotypes. The social cognitive approach advocates the use of cognitive training alongside such educational techniques. Finally, the social identity approach emphasizes the importance of tackling prejudice by changing social norms and expectations.

Conclusion

Prejudice is evident among young children, and although this is surprising and concerning, it is important to remember that for the most part, children express bias—a preference for their own group—and the negative hostile behavior we sometimes observe in adults is rarely found in children. It is important to also remember that young children's bias and prejudiced attitudes and behavior may be a result of their (naturally developing) preoccupation with physically salient groups: "What group do I belong to? What group are they? I like my group best." However, children learn about the status of groups, stereotypes, and typical intergroup relations (how the members of the groups get along) through observing parents and other adults in their world. Crucially, research shows that children can and do respond to educational

interventions to change their attitudes, particularly if they are tailored to suit their cognitive ability.

Lindsey Cameron

See also Anti-Bias Education Theory; Bias; Cultural and Linguistic Responsiveness; Cultural Competence; Cultural Diversity; Ethnic and Racial Identity Development

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DEVELOPMENTAL ASSESSMENT

Developmental assessment is a process designed to deepen an adult's understanding of a child's competencies, capabilities, and progress in multiple domains of development—physical, intellectual, language, emotional, and social. It is usually conducted when a physician, parent, or teacher notices that a child is experiencing a developmental problem in one of these areas. This entry provides information about the purposes and qualities of developmental assessments along with information about some of the more common assessments in use in early childhood education today.

A developmental assessment typically includes a wide variety of measurement methods such as observations and outcomes of the child performing various tasks; observations of a child in natural/authentic settings (such as homes and classrooms) as they interact with others or play on their own; questionnaires completed by parents, caregivers, and teachers; medical/vision examinations,

medical history, and reports from other professionals such as audiologists, language specialists, child psychologists or psychiatrists, and physical and occupational therapists. Often a team approach involving many people is used in a developmental assessment. A developmental assessment appraises development of the child along a continuum of developmental milestones and thus does not result in a traditional “score.”

Those performing a developmental assessment should consider the value of the following chain of events.

1. First, build a relationship with the parent or caregiver and discuss issues and concerns of the child *and* of the family.
2. Obtain as much developmental history as possible as well as information on current family experiences and dynamics.
3. Observe the child in the context of spontaneous play and daily routines with parents and/or familiar caregivers.
4. Conduct specific assessments of the child in developmental area(s) of concern.
5. Observe interactions between the child and the evaluator or clinician.
6. Keep a developmental model as a framework to understand and integrate all of the data, thus creating a picture of the whole child.
7. Convey evaluation findings in the context of relationships within the family.

In a more narrow definition, a developmental assessment is any assessment whose focus is on development in the various domains rather than academic knowledge, skills, or abilities. Various developmental assessments can be purchased from companies and institutions. A few of the well-known and popular ones include Ages and Stages Questionnaires (ASQ-3), Denver Developmental Screening Test (DDST), Early Screening Inventory-Revised (ESI-R), Gesell Developmental Observation-Revised (GDO-R), and Hawaii Early Learning Profile (HELP). All of these assessments

have the advantage of availability to collect data longitudinally to monitor children’s growth over time.

The ASQ is a highly reliable assessment used to screen children, from birth through 5½ years of age, for disabilities. The questionnaire format is completed by parents in about 10 to 15 minutes and scored by professionals in 2 to 3 minutes. As parents complete the form, they are able to gain understanding of both typical developmental expectations and their own child’s strengths and areas of concern.

The DDST was created at the University of Colorado Medical Center in Denver and is primarily used to examine developmental progress in children from birth through 6 years of age. As a screening instrument that takes a relatively short time to administer, it is commonly selected for use in early education programs and pediatric offices. When concerns about a child’s development arise, based on results from the use of this instrument, additional assessments are often scheduled.

The ESI-R is a screening instrument used to identify preschool- and kindergarten-age children who may need special education services. The screening is individually administered and takes about 15 to 20 minutes. Results of the screening are put in terms of one of three statuses: refer, rescreen, or OK.

The GDO-R is an observational assessment that evaluates cognitive, motor, language, and social-emotional development in children between the ages of 2½ and 9 years. Providing information about strengths and areas for additional support to both parents and teachers, the results are particularly useful in planning for differentiated instruction.

HELP is a family-centered curriculum-based assessment for infants and toddlers (birth to 3 years) and their families. HELP Strands 0–3 Plus measures the skills of toddlers, 36 to 48 months of age. These measures evaluate children’s development in cognitive, language, gross motor, fine motor, social-emotional, and self-help skills.

An inherent benefit of a developmental assessment is found in its understandable scope of developmental milestones that informs and advises

parents and teachers as to what is an appropriate expectation for each age. Quality developmental assessments provide a range of time for each milestone to emerge, unlike checklists that simply want a yes or no answer for each milestone by month or year of age.

Marcy Guddemi

See also Assessment, Limitations of; Authentic Assessment; Child Development and Early Childhood Education; Developmental Disabilities; Emotional Development; Family Partnerships; Language Development; Multiple Methods of Assessment; Observational Assessment; Social-Emotional Development; Speech Development

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DEVELOPMENTAL DISABILITIES

Developmental disabilities are a complex, complicated cluster of symptoms and conditions. They are lifelong and chronic. This entry begins with a definition of the condition followed by causation and specific diagnosis. The entry ends with a discussion of the implications of this diagnosis for

early childhood education and particular considerations for early childhood educators.

The term *developmental disabilities* is an umbrella term used to describe a diverse set of disabilities in broad areas resulting from impairments in physical ability, learning, language, or behavior. These conditions often occur prenatally or at a young age but may occur anytime in development as a result of injury, infection, or other factors occurring up to 22 years of age. The key aspects shared by these very different conditions are that they are chronic, are usually lifelong, and typically have an impact on the person's day-to-day functioning.

In his 2008 book, Pasquale Accardo described three general ways developmental disabilities are recognized as different from the typical pattern of expected development in early childhood. First, a child may attain a skill more slowly than expected—the child with delays shows the skills of a younger child. The second difference can occur when a child deviates from the expected sequence of development. A child deviating from the expected path shows behavior not typical of a child at any age or completely fails to acquire an expected skill. The third difference is a combination of the previous two: A child may be delayed, or slow to attain skills in a particular area of development, but may show a much more pronounced or marked delay in other areas. Or, the child may deviate by showing an atypical behavior in another area of development. This third uneven acquisition of developmental skills is described as dissociation.

Causes and Diagnosis

The list of causes attributed to most developmental disabilities is also broad. According to the Centers for Disease Control and Prevention, most developmental disabilities are thought to be caused by a mix of factors, including genetics, prenatal health of the mother, parental health behaviors such as smoking and drinking, complications of birth, premature birth, maternal infections during pregnancy, or post-birth injury or infection. Unlike most other clinical and medical diagnoses, development disability does not have one specific

identifiable cause or outcome. Instead, conditions are generally described by symptoms rather than known causes.

In the 2013 edition of his textbook on medical aspects of disability, Mark Batshaw categorizes developmental disabilities by three levels of significance. Conditions in the first level occur at higher rates and are often less severe. The first level is for specific impairments and very broad behaviors such as inattention, spasticity, and underachievement. The second level is for categorical diagnoses such as attention deficit hyperactivity disorder (ADHD), cerebral palsy, autism, or specific learning disability. The third level is the narrowest and the least frequent. Conditions in the third level are classified by etiology. Down syndrome and fragile X syndrome both fall in level 3.

Level 1 conditions have broad symptoms and characteristics but are not identified by a clear, specific condition. The descriptions in level 1 are more often a way of clarifying function and level of severity. The descriptors in level 1 are vague—inattention or spastic movement is clear enough to describe a behavior, but it is not diagnostic. A more common, functional use of these descriptors is in educational and therapeutic settings. The frequency or intensity of the symptom and behaviors may lead to the diagnosis of a more specific level 2 or 3 condition.

The second categorical or diagnostic level identifies patterns of behavior associated with specific disorders or symptoms that indicate a particular condition such as ADHD or intellectual disability. In 1992, the World Health Organization (WHO) presented another way of categorizing level 2 disorders, in a document titled “The International Classification of Functioning, Disability, and Health” (ICF). The ICF looks at human function. Function describes daily life activities rather than the limitations.

The ICF provides a unified language that captures *how* people with a health condition function in their daily life, rather than focusing only on the diagnosis or the presence or absence of disease. In the ICF, a function is defined as the use of any part of the body in an activity, movement, or participation in life activities. Disability is the limitation.

Environmental and personal factors are considered in each area. The ICF discussion centers on the individual and his or her activities and environments, not just on his or her limits. In recent years there has been a tendency to blend the static categories of disability with the dynamic ICF functions of the person in the context of his or her disability.

Level 3 of the framework laid out by Batshaw is the narrowest level—the etiologies level. The conditions at this level have clearly recognizable characteristics associated with their label. Conditions such as Down syndrome fall in this category. It is the narrowest level because the variability and the incidence of conditions are lower than for the other levels. Level 3 conditions are included here because the etiology of the condition is specific.

The following categories, taken from the Centers for Disease Control and Prevention website, are broad examples of the types of conditions teachers may encounter in the classroom. This is not intended to be an exhaustive list.

Attention deficit hyperactivity disorder is a very common neurodevelopmental disorder that is usually first diagnosed in early childhood. The symptoms include difficulty paying attention and impulsive behavior.

Autism spectrum disorder (ASD) is a developmental delay identified in early childhood but persisting throughout the life span. Individuals with ASD often have challenges with social interactions, communication, and behavior. Repetitive behavior and difficulty with transition from one activity to another are two common symptoms.

Cerebral palsy affects individuals in very different ways. It is a group of conditions that affect a person's posture and movement. Literally, *cerebral* means brain and *palsy* means weakness of muscles. Symptoms range from mild to severe and the impact on daily living is one way the level of severity is measured.

Hearing loss occurs when there is a problem in any part of the ear—outer, middle, or inner. Hearing

loss ranges from mild to moderate in either or both ears. Hearing loss may affect a child's ability to develop language skills, spoken words, and social skills. Hearing loss may occur anytime from birth onward.

Intellectual disability is a condition closely aligned to the term *developmental disability*; in some publications the two terms are interchangeable. Intellectual disability, however, refers to the limitation a person may experience in the level of daily function as a result of cognitive impairment. Delays in development are noted at an early age for children who have intellectual disability. The condition, however, can occur before birth as a result of infection, or shortly after birth as a result of birth defects. Other causes, such as a traumatic brain injury or infection, occur later in the child's life.

Learning disability means a disorder in one or more of the basic processes involved in understanding or using language, spoken or written, that may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations. It includes conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia.

Vision impairment can be due to damage to the eye or a problem with or damage to the brain. The impairment may occur in one or both eyes. The degree of vision loss is variable and can be different in each eye.

Developmental Disabilities for Early Childhood Educators

What do all the development disability conditions mean to an early childhood educator? Whereas many of the conditions described may occur in early childhood, the diagnosis of others, especially the less specific, higher incidence conditions, sometimes takes longer. When a developmental concern is established for a younger child, the emphasis of the concern is not on the chronicity or lifelong nature of a disability; instead, the focus is on the individual child's strengths and weakness.

In the United States, pursuant to the Individuals with Disabilities Education Act (IDEA), children are eligible for early intervention services with an identification of a developmental delay. Each state has specific criteria for both the identification of developmental delay and eligibility for services that include educational and therapy intervention. The behavior or skills in each developmental area are evaluated by observing a young child's achievement of milestones in comparison to a normative sample of children the same age.

Milestones are behaviors and skills that can be repeated by children at generally the same time and in the same way so that an observer can reliably note the presence or absence of the behavior. Milestones are a way of marking development. Batshaw noted in his 2013 text that developmental delay is most often described as the number of months or years a child is behind in the development of a skill or milestone. Milestones tend to reflect important functional skills that are critical to development. In evaluation of child behavior, it is important to focus on the function of behavior the milestone represents, not the specific milestone. A young child's development, while following the sequence set out by the milestones, still has great age variability. A delay in any area is a caution, and a delay of 25% (1 standard deviation) or more is considered a developmental delay.

The following developmental areas are set by the IDEA to determine eligibility for services: physical development, communication development, cognitive development, social or emotional development, and adaptive development.

Physical. Development characterized by behaviors and skills in the motor area of development. The motor area consists of gross and fine motor skills. Gross motor skills, or large muscle movement, include rolling, sitting, creeping, crawling, pulling to stand, standing, transitioning in and out of sitting, cruising along a surface, walking, skipping, running, and climbing stairs. The small muscle movements are viewed as fine motor skills, such as pincer grasp, reaching, swatting, clapping, scribbling, writing, and many self-feeding skills (e.g., holding a cup or spoon).

Communication. Development characterized by the expression or speaking of language and the understanding or reception of language. Children with a delay in listening (understanding) and speaking skills are labeled as language-impaired. Learning to talk is one of the most apparent milestones achieved in early childhood.

Cognitive. Development of mental reasoning, cause and effect, memory, problem solving, and intellectual processes develop in a sequential order that can be observed and anticipated in typical development. Object permanence demonstrated in peek-a-boo, memory of the alphabet, and rote counting are examples of cognitive or thinking skills developed in early childhood.

Social or Emotional. The social awareness and general sociability of a young child is observed and evaluated along with the child's emotional self-regulation and reaction to the environment. What a child experiences as an infant influences behavior, both positively and negatively, and is evident in the development of social and emotional skills. A young child builds trust in the first two years that is a foundation for relationships and social interactions with others. Other skills developed during the early childhood years include social interactions, self-regulation, friendship skills, turn taking, and sharing.

Adaptive. In the early childhood years, the domains of adaptive behavior are generally the self-help skills of feeding, dressing, and toileting.

Kate McKinnon

See also Accommodations and Adaptations; Assessing Children for Disabilities; Atypical Development; Autism Spectrum Disorder

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Websites

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- Centers for Disease Control and Prevention: Facts about developmental disabilities: <http://www.cdc.gov/ncbddd/developmentaldisabilities/facts.html>

DEVELOPMENTAL SCREENING INSTRUMENTS

Developmental screening instruments (DSIs) refer to tools used in the process of identification of a disability or delay. Screening instruments are meant to provide a snapshot of early child development. They are used to determine if there is a need for further, more comprehensive evaluation. Results from DSIs are used to make referrals for diagnostic evaluation(s), track child development, and conduct universal screening efforts.

This entry provides information about DSIs used for early detection of developmental problems in young children. DSIs contain items meant to differentiate typical from atypical performance in various areas of development that may include, but are not limited to, the following domains: adaptive, cognitive, communication, fine motor, gross motor, and social and emotional.

Overview

A framework for the use of DSIs starts with a *concern*. Someone familiar with the child has raised a concern about his or her development.

That concern may lead to a *referral* being made for a developmental screening. A familiar caregiver (e.g., parent, grandparent) or professional (e.g., teacher, pediatrician, social worker) completes the DSI.

If the DSI indicates the child performed in the typical range, then he or she may not need further screening. The child may be entered into a tracking system (also called developmental surveillance) in which future screening instruments will be given at a later date to track the child's development.

However, if the outcome from the DSI indicates the child performed differently from what is expected for his or her chronological age, then referral to the appropriate service provider(s) will be made for a diagnostic evaluation.

DSIs are not meant to be used to (a) diagnose a disability, (b) determine eligibility for early intervention or early childhood special education, (c) write treatment or education plans, or (d) monitor developmental progress. Screening instruments usually take less than a half hour to administer and have a small number of assessment items when compared to more comprehensive developmental evaluations. For this reason, results from a DSI can only show a narrow and incomplete picture of what a child can and cannot do. Therefore, a big question that a DSI can help to answer is, "Does this child need further assessment to determine the presence of a delay or disability?"

Cross-sector collaboration is needed when using DSIs. Education, social service, and health care providers can all conduct screening. In education, young children are screened by educators as outlined in the Individuals with Disabilities Education Improvement Act of 2004 (IDEA). Eligible young children and their families may receive early intervention (for infants and toddlers under IDEA Part C) or early childhood special education (for preschoolers under IDEA Part B, Section 619). IDEA mandates states to set up a Child Find system in which DSIs are used to actively identify young children with delays or disabilities.

In the social service sector, young children are screened by social service providers. The Child Abuse Prevention and Treatment Act promotes developmental screening for children who have

been referred for abuse and/or neglect. The American Academy of Pediatrics recommends developmental screening for young children by health care providers and pediatricians.

Research

DSIs are commercially available from publishers. Some DSIs have limited evidence that support their use, whereas others are supported by evidence from several research studies. The user's guide or manual that accompanies a DSI may describe the research studies associated with the tool. Often the DSI is supplemented with a manual that describes the standardization sample, field testing, and other research done during the development phase of the instrument, especially if it is a first edition or newer instrument. A literature review on DSIs can indicate evidence for the validity, reliability, and/or utility of the tool. To have confidence in the effectiveness of the DSIs being used, it is useful to incorporate the use of DSIs that have an evidence base.

Tips in Selecting DSIs

Several considerations need to be made when selecting an appropriate DSI. First, look for screening instruments that involve the child's parent(s). Several instruments have ways to elicit information from the child's family and familiar caregivers. Some use interviews, checklists, questionnaires, and other methods for parental input.

Second, the costs need to be considered. There is a wide range of publisher charges for instruments. Some instruments offer kits and special materials. An agency might look for instruments that allow it to reproduce and make copies of the assessment protocols rather than having to buy a new one for each use.

Third, the characteristics of the child being screened should be represented in the standardization sample when norms were being developed. Screening instruments are norm-referenced assessments. When a child is screened, his or her results are compared to the other children in the normative sample, typically based on chronological age

(e.g., a 48-month-old child is compared to peers of the same age). To apply this tip, consider a child who may have characteristics related to autism spectrum disorder (ASD); in this case, it would be critical to use a DSI that was field-tested on other children with ASD characteristics. Likewise, for a child who is suspected of having motor delay, the evaluator should select a tool that incorporated children with orthopedic impairments or delays in the standardization sample.

Fourth, ensure there is a fit between the existing services and personnel conducting developmental screening. Professional development and technical assistance will need to be considered. It is also important that the resources are streamlined so there is no duplication of efforts. Personnel need to be aware of where, when, and how to send referrals based on screening outcomes, as well as how to follow up on referrals.

A final tip is to select instruments that offer flexible methods for screening young children. Some tools can be administered online, via mail, at a kiosk in the pediatrician's office, at intake, over the phone, in a face-to-face interview, at a screening fair, and more. DSIs that provide flexibility can be beneficial to children, families, and practitioners.

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See also Assessing Children for Disabilities; Assessment, Limitations of; Developmental Assessment; Developmental Disabilities; Early Intervention

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DEVELOPMENTALLY APPROPRIATE PRACTICE

Developmentally appropriate practice (DAP) refers to ways of teaching and caring for young children from birth through age 8 that effectively promote children's development and learning in important domains—physical, social, emotional, language, and cognitive development and approaches to learning—by helping children reach challenging but achievable goals. Dimensions of DAP emerged from and continue to be revised according to two main sources: (a) research on children's learning and development outcomes, and (b) practitioners' experiences in working with young children.

Professionals in the field of early childhood care and education first articulated dimensions of DAP through publications of the National Association for the Education of Young Children (NAEYC) in the 1980s, which were written to help teachers create environments that conformed to how young children best develop and learn. The term *environments* encompasses physical, emotional, instructional, and relational aspects. (In this entry, the term *teachers* refers to anyone providing direct care to infants, toddlers, or young children.) As research and practice have evolved over the past few decades, NAEYC and other researchers and stakeholders have tried to keep pace by revising and expanding materials to explain how to define and implement DAP.

There are several common misconceptions about DAP. First, DAP is not a curriculum, as it is sometimes referred to; rather, it is a collection of considerations about what is appropriate and is designed to help teachers plan and implement

curricula effectively. DAP guidelines help educators select curricula that are effective and beneficial to children. Although DAP is usually referred to in the singular, it is better thought of in the plural, as “developmentally appropriate *practices*,” as it encompasses a wide range of approaches that are dependent on individual children and contexts. What is appropriate for one child may not be appropriate for another, just as good coaching for one athlete looks different than good coaching for another athlete, depending on the individual and the context even though basic principles (e.g., practice, good nutrition) remain constant. However, this entry refers to DAP in the singular because that is how the term is generally used in common practice.

Lastly, DAP has often been closely identified or equated with play-based learning, but this idea greatly oversimplifies and distorts what is meant by DAP. Play—child-initiated, free-choice activity—is essential to DAP but is only one element of it and is only effective in balance with other elements, including direct instruction. In short, DAP is a set of principles and practices that guide educators in caring for and educating young children for their optimal development.

This entry aims to explain what DAP is by first providing a definition and underlying principles, followed by an explanation of how the term emerged in the education lexicon and in practice. A discussion of DAP and research follows. There is then a brief discussion of DAP in the international context. The closing section considers current trends and policies that could impact implementation of DAP in the United States.

Definition of Developmentally Appropriate Practice

DAP describes a set of understandings about what constitutes good practice in caring for and educating children from birth through age 8. One of the central aspects of DAP is that teachers meet a child where she or he is—developmentally, experientially, culturally, individually—and from this starting point take action to enable the child to progress. Thus, best practice begins with teachers’

awareness of individual children’s knowledge, abilities, characteristics, and interests, which is achieved through warm, reciprocal relationships with each child. Teachers use this awareness to make decisions and strategies to help each child meet challenging but achievable goals through learning experiences that are engaging and meaningful to the child.

Teachers make decisions about what is developmentally appropriate based on three core considerations: (1) their general knowledge of child development—knowing what children are generally capable of and how they learn within a given age range; (2) their knowledge of individual children and their unique interests, abilities, and personality; and (3) their awareness of the cultural context and family life in which children live. Professional preparation in early childhood development and education is therefore considered a necessary prerequisite to competent performance as an early childhood educator.

There are five aspects of teachers’ roles within a system of DAP, according to NAEYC. Teachers (1) create a caring community of learners, (2) teach in ways that enhance children’s development and learning, (3) intentionally plan curriculum to achieve important goals, (4) use appropriate assessment strategies to guide children’s development and learning, and (5) establish reciprocal relationships with families. Regardless of children’s ages, developmental status, family background, or cultural context, these five aspects of teaching are considered fundamental to DAP.

As described in the 1997 and 2009 position statements on DAP, DAP stems from 12 core research-based principles about children’s learning and development:

1. All areas of development and learning are important.
2. Learning and development follow sequences.
3. Development and learning proceed at varying rates.
4. Development and learning result from an interaction of maturation and experience.

5. Early experiences have profound effects on development and learning.
6. Development proceeds toward greater complexity, self-regulation, and symbolic or representational capacities.
7. Children develop best when they have secure relationships.
8. Development and learning occur in and are influenced by multiple social and cultural contexts.
9. Children learn in a variety of ways.
10. Play is an important vehicle for developing self-regulation and promoting language, cognition, and social competence.
11. Development and learning advance when children are challenged.
12. Children's experiences shape their motivation and approaches to learning.

DAP has had a strong influence on the early learning standards in many states and on curriculum resources that have been developed in recent decades, and proponents of DAP advocate for policy makers, aid organizations, and foundations to consider its principles to guide policy and funding decisions. However, the fundamental goal of DAP is for teachers to use the principles of DAP to make teaching decisions to best promote individual children's learning and development.

How Developmentally Appropriate Practice Emerged

Originally used by developmental psychologists at the beginning of the 20th century, the term *developmentally appropriate* describes age-related and individual variation in human development. The term was sometimes used by psychologists and others to describe experiences and materials that suited children's particular point in development, and in the early days of Head Start educators agreed that programs needed to be implemented in "developmentally appropriate ways." The term

came into wide use in the field of early childhood education when NAEYC published a position statement in 1986, defining and describing DAP in relation to teaching children in early care and education programs.

The First Position Statement: Combating Push-Down Curricula

Societal changes intensifying in the 1980s, including greater numbers of families seeking child care for children at younger ages, converged with an increase in the use of curricula and practices inappropriately pushed down from older to younger children. For the most part, educators did not intentionally push down practices they knew to be inappropriate; rather, not knowing better, they overgeneralized their beliefs and accepted elementary teaching practices for young children. These methods and curricula were typically not well suited to young children: They required them to sit still for too long, follow teacher directions too often, do things in whole groups too long, or complete overly difficult worksheets. Little time was protected for active engagement, including play, exploration, and problem solving. Some teachers noticed children struggling, failing, or being judged not ready for the next level. Educators observed these practices to be either boring or frustrating and discouraging to young children, leading to a consensus that the field needed to protect young children from learning experiences designed for older children that were ill-suited for young children's ways of learning.

In response to these "push-down" practices—as well as a need to clarify DAP for programs seeking NAEYC accreditation and to make interpretation of standards more consistent—NAEYC published its 1986 position statement. It summarized the field's best thinking at the time, served as a defense of valued practices, and was used as an advocacy tool to improve programs. NAEYC expanded the position statement into a book in 1987, edited by Sue Bredekamp. These were pivotal publications for the field because NAEYC, representing early childhood teachers,

administrators, advocates, and policy makers, articulated its position on how to best educate young children in ways that suited their developmental characteristics and avoided the push-down approach. In the 1986 publication on DAP, NAEYC provided extensive examples of appropriate and inappropriate practices in order to guide teachers to make decisions that would best support young children's learning, according to both developmental levels and individual abilities, interests, needs, and learning goals.

Consensus and Criticism

NAEYC's position on DAP was widely embraced by the early childhood field, but not universally. For example, in the Commonwealth of Virginia, educators were asked not to use the term *developmentally appropriate practice* in state professional development programs. In general, critics challenged what they perceived as an overly narrow reliance on traditional theories of child development and worried that the DAP statement promulgated a hands-off, laissez-faire image of teaching practices in which the teacher merely set up a good environment and then stood back to watch. Others argued that the statement on DAP failed to note the importance of cultural differences in determining what practices are and are not appropriate. Critics also pointed out that DAP, as it was then defined, paid insufficient attention to special needs and other individual differences.

Other challenges arose too. In many cases, teachers agreed with the principles of DAP but did not know how to implement them well in daily practice, and many teacher preparation programs at colleges and universities did not prepare teachers to implement DAP adequately. Moreover, a variety of misconceptions about DAP was prevalent, some of which still exist, as mentioned earlier.

Regardless of the criticisms, the idea of DAP gained momentum. It became positively and widely influential within the profession, and leaders set out to make improvements to DAP in response to current thinking, research, and societal contexts.

Revisions to Emphasize the Role of Teachers, Culture and Language, and Alignment

In 1997, NAEYC invited an expert panel and wide participation from the field in order to revise the position statement and book, both edited by Bredekamp and Carol Copple. It was in this version that NAEYC articulated that teachers should make learning "challenging and achievable." The editors explicitly stated that young children must be challenged to achieve new levels of learning but that teachers should set challenges to a level that a child could achieve with effort, rather than setting the bar at a level too high to achieve or too low so as not to stretch the child at all.

The 1997 revision increased the emphasis on content learning, planned curriculum, and assessment and underlined the importance of the teacher as an intentional decision maker in all these respects. Intentionality is now a central tenet of good teaching practices within DAP. With increased emphasis on the theories of Lev Vygotsky, who emphasized an active role for adults in children's cognitive and social development and learning, the 1997 revision emphasized teachers' intentional role in stimulating children and scaffolding to help children achieve new skills. (To scaffold is to guide children to build on emerging skills and interests through questions that extend children's thinking and through demonstrations, suggestions for alternate approaches, and so forth.) With this emphasis, the revised position statement highlighted the need for balance between child-initiated and teacher-guided experiences. It emphasized the holistic nature by which young children learn and added an emphasis on making practices *culturally* appropriate for children from all backgrounds, including respecting and encouraging dual language development. It also brought attention to inclusion of children with disabilities.

In 2009, NAEYC published the third edition of the position statement and book, based on input from a panel of nationally recognized experts and input from the field. Key points included the role of standards, new knowledge about learning trajectories, achievement gaps between groups of children and how DAP could help to close them,

and the need for continuity and alignment of children from prekindergarten through third grade. In addition to reiterating the centrality of relationships in young children's learning, the book provided a more refined discussion of play than had previously been provided. In the previous decade, research had shown the benefit of high-quality play—rather than all unstructured activity—to children's self-regulation and learning, as well as how to promote such play. In addition, this edition clarified the role of instruction, small- and large-group learning experiences, and teacher scaffolding. The book also included new research about children's executive functioning—that is, children's ability to think, plan, pay attention, make decisions, use logic, and problem solve—and how play and other activities promote executive functioning and self-regulation.

Revisions led to a series of NAEYC publications in 2013 and 2014 that included a book and DVD each on practices for (a) infants and toddlers, (b) preschoolers, (c) kindergartners, and (d) children in first, second, and third grades.

As a result of the wide distribution of the various DAP publications and their use in early childhood education programs and college-level teacher preparation programs beginning as early as the 1980s, the term *developmentally appropriate practice* entered the common lexicon. Parents, policy makers, researchers, and lay persons began to use the term, with recognition of the core ideas but with varying levels of accuracy.

Developmentally Appropriate Practice and Research

The obvious question about DAP for educators, parents, and policy makers is a pragmatic one: Are the practices outlined more effective in supporting young children than other practices? When the notion of developmentally appropriate practice was first articulated, researchers began examining that question. A number of researchers, such as Marilou Hyson, Diane Burts, Rosalind Charlesworth, and others, attempted to develop measures that captured elements of NAEYC's 1987 position statement on DAP, creating instruments such as the Classroom

Practices Inventory. These early studies typically did not control for selection bias or use random assignment, and there may have been unexamined selection bias as far as which families chose to use DAP-based programs; yet the early results provided a foundation of support to continue exploring the notion of DAP. For example, they showed that the DAP approach, in comparison to highly didactic approaches, correlated with less child anxiety and stress; higher levels of divergent thinking and creativity; better language outcomes, including higher receptive language scores and verbal skills; and greater confidence.

On the other hand, developmentally appropriate programs and highly didactic programs on average seemed to generate similar levels of cognitive and academic performance in areas such as reading, mathematics, and science. Importantly, however, the academic-outcome findings also captured a critical group-based difference: There was a distinct advantage in cognitive and academic performance for DAP programs for children from low-income and low-educational attainment families as compared to middle-class and affluent children. Other research also started to show that cognitive and academic results favoring DAP appeared longitudinally, even when they had not appeared in children's immediate outcomes.

Early measures such as the Classroom Practices Inventory over time came to be seen as unable to adequately capture various elements of DAP, and later research focused more on specific dimensions of DAP. Overall, few studies examine DAP as a unified entity as researchers began examining various dimensions of DAP (e.g., warmth of teacher-child relationships, balance of play and direct instruction) or specific educational models grounded in DAP principles and guidelines, such as HighScope, Tools of the Mind, and Creative Curriculum, as compared to other models. The results typically support the effectiveness of the various components of DAP for children's short-term (e.g., increased compliance, improved attention) and long-term (e.g., decreased grade repetition, improved cognitive scores) success and well-being. As a result of the consistent findings in favor of components of DAP, the term *developmentally*

appropriate practice is sometimes used interchangeably with the notion of high-quality early childhood education.

Major research handbooks have summarized the evidence, such as *From Neurons to Neighborhoods: The Science of Early Childhood Development* (2000), edited by Jack Shonkoff and Deborah Phillips; *Eager to Learn: Educating Our Preschoolers* (2001), edited by Barbara Bowman and colleagues; *Handbook of Child Development and Early Education* (2009), edited by Oscar Barbarin and Barbara Wasik; and *Handbook of Early Childhood Education* (2012), edited by Robert Pianta and colleagues.

Research on Blending Child-Guided and Teacher-Guided Activities

Research confirms that it is the blend of child-initiated, free-choice, playful activities *and* teacher-directed activities and instruction that helps children meet challenging but achievable goals. Emphasizing either approach at the expense of the other was shown by researchers such as Elizabeth Graue and colleagues in 2004 to decrease children's success over time. One classic study of the HighScope curriculum by David Weikart, Larry Schweinhart, and colleagues that began in 1967 compared the HighScope curriculum and another child-centered nursery school experience that blended children's active learning and intentional teaching to a highly scripted teacher-centered direct instruction experience. At age 23, the direct instruction participants had 3 times as many arrests and more emotional and other problems than their HighScope peers. Other studies have similarly shown that a balanced approach associates with children's higher language and literacy scores, math and reasoning skills, and strong social-emotional skills, both concurrently and longitudinally. These findings have been replicated in several other studies.

Research on Warm, Responsive Teacher–Child Interactions

A key aspect of DAP is the warm bond that a teacher has with the children, knowing them well as individuals and being responsive to individual

differences. Research, including studies using nationally representative samples, indeed confirms that positive teacher–child relationships correlate with other dimensions of DAP and with good child outcomes, including academic success, social competence, and fewer behavior problems. One widely used instrument measuring quality of early childhood and elementary classrooms (especially teacher–child interaction quality) is the Classroom Assessment Scoring System (CLASS), developed by Pianta and colleagues. Findings using this measure show that in programs where teachers have positive, responsive, and consistent interaction styles, children are more engaged, have better self-regulation skills, and achieve better social and academic outcomes. A strong body of evidence from numerous researchers unequivocally shows the centrality of teacher–child relationships in positive learning experiences and outcomes for children.

Linking DAP and Quality

With wide acceptance of the core elements of DAP, measures and studies have increasingly used the term *high quality* to capture the congruence of elements of DAP—in contrast to programs using push-down, highly didactic, or strongly teacher-oriented approaches. In an attempt to measure quality, simultaneously capturing core elements of DAP, researchers developed the Early Childhood Environment Rating Scale (ECERS) in 1980 and revised it in 1998 to reflect, among other things, NAEYC's refined explanation of DAP and program quality, including emphases on cultural diversity, family concerns, and children's individual needs. The ECERS and ECERS-Revised have been used in many major national and international studies, and researchers refer to programs scoring well on these measures as high quality. As another example, the Center for the Developing Child at Harvard University characterizes high-quality programs as those incorporating the basic elements of DAP, such as (among other things) opportunities for active and quiet play; developing motor, social, language, and cognitive skills through play; positive interactions with adults; practices that support

positive interaction among children; facilitation of emotional growth; engagement with families; and respect for diversity—all characteristics emphasized in DAP.

A growing number of large-scale studies from the 1990s onward confirm that children's best chances of experiencing success and well-being emerge through high-quality—that is, well-implemented, developmentally appropriate—practices in early childhood programs, especially for children from economically and otherwise disadvantaged families. Major studies confirming these findings include the Cost, Quality, and Outcomes Study, the National Institute of Child Health and Human Development Study of Early Child Care and Youth Development, Head Start impact evaluations, the HighScope Perry Preschool Study, the Carolina Abecedarian Project, the Chicago Child Parent Centers, and Oklahoma's universal pre-K evaluations.

Contemporary Research

Research from the 2000s and 2010s corroborate the earlier findings: High-quality developmentally appropriate programs are associated with good child outcomes. For example, the Quality Interventions for Early Care and Education study in 2013 found that programs in which teachers show sensitivity and provide a high quality of caregiving and teaching (core components of DAP) are associated with children's literacy, math skills, and emotional health, as well as with fewer problems such as aggression, hyperactivity, depression, and anxiety. Researchers concluded that program experiences aligned with DAP guidelines were the most consistent predictor of school readiness, emotional health, and fewer problems.

Similarly, a multistate study of 6,000 preschool and elementary children using the CLASS found that teachers' instructional support to children in preschool positively predicted concurrent prereading and math skills; teachers' emotional support in preschool contributed to social skills in kindergarten; warm teacher-child interactions correlated with kindergartners' self-control and engagement; and effective teacher-child interactions helped

at-risk first graders achieve the same degree of social and academic skills as other children. These and other recent large-scale studies indicate that what many consider the essential components of DAP (e.g., warm, reciprocal relationships and a balance of child- and teacher-guided activities) correlate with good child outcomes.

Developmentally Appropriate Practice Internationally

The articulated concept of DAP emerged in the United States, but DAP-based programs exist internationally and are expanding. In a review of 20 developed nations in 2002, Tony Bertram and Chris Pascal found striking overlap in terms of the values and practices in early education that essentially align with the core principles of DAP. The countries included in the study were Australia, Canada, England, France, Germany, Hungary, the Republic of Ireland, Italy, Japan, Korea, the Netherlands, New Zealand, Northern Ireland, Singapore, Spain, Sweden, Switzerland, the United States, Wales, and Hong Kong. Professionals across these countries generally agreed that early educators should

- include a child-centered, flexible, and individually responsive curriculum;
- recognize the importance of working in partnership with parents;
- offer broad and relevant learning experiences in an integrated manner;
- appreciate the importance of play and active, exploratory learning;
- emphasize social and emotional development; and
- empower children to be autonomous, independent learners.

Educators used different curricula (e.g., HighScope, Montessori, Reggio Emilia, Te Whariki) within the various countries, as one would expect, so that curricula matched respective contexts and cultures. What the curricula did not include was rote memorization or passive learning, long periods of sitting still, a highly teacher-oriented

approach, and other approaches DAP proponents would consider inappropriate.

In many developing nations where funds for and knowledge about early education are lower, awareness of DAP is only now emerging. Several types of misconceptions exist in developing countries—all of which are also true in developed countries as well, to varying degrees. Parents and professionals sometimes incorrectly perceive “formal” or didactic approaches as more serious and effective than perceived unstructured or play-based methods. Some may underestimate what young children are capable of and not see the value of early childhood education and stimulation. Still others may see early childhood as a time to play, be carefree, and stay close to parents, without recognizing that good early education programs encourage those things to occur. And some mistakenly associate DAP with the hands-off approach discussed earlier. These misconceptions hamper implementation of DAP-based programs.

Nonetheless, many developing and economically emerging countries already implement aspects of DAP or are interested in learning more about DAP. The DAP position statement and books have been translated into numerous languages. Research on DAP has been conducted in Cyprus, Greece, India, Hungary, Jordan, China, Ecuador, Korea, Cambodia, and elsewhere, and a growing number of countries are starting to incorporate DAP into existing early education programs. For example, in the mid-2010s, Saudi Arabia engaged NAEYC to help create developmentally appropriate program standards, Indonesia collaborated with the World Bank to support development of developmentally appropriate programs in poor districts, and Bangladesh worked with Save the Children to strengthen DAP-based early childhood practices. Leaders emphasize that how DAP is defined must be adapted to suit the context and values of a given culture, particularly for non-Western cultures, while retaining core values. For example, that children do not receive corporal punishment is true to DAP regardless of culture (a core value); however, whether a program uses time-out as positive discipline or whether boys and girls have class together may be culturally bound. Specific adaptation is

also a concern for children whose healthy development has been interrupted, such as children rescued from trafficking or who have suffered abuse, live in conflict areas, or have experienced natural disasters, whether within the United States or another developed country, or in a developing country.

Regardless of context and adaptations, the essential practices of DAP-based programs are consistent worldwide: Teachers create caring communities of learners, plan curricula and carry out assessment appropriately, engage with families, and implement other basic components of DAP.

Contemporary U.S. Trends and Policies That May Impact DAP

In the United States, DAP is the most prevalent and widely promoted approach to early childhood care and education for which experts advocate. The majority of early childhood researchers and educators advocate for implementation of DAP approaches for children from birth to age 8, or up to about third grade. At least two contemporary issues are likely to influence the implementation of DAP for children from birth through age 8 in the United States in the 2010s and 2020s.

Common Core State Standards

State leaders throughout the country established a common set of expectations in 2009 for what children from kindergarten through 12th grade should know and be able to do. Called the Common Core State Standards (CCSS), the standards name benchmarks but do not require a specific curriculum. Some early childhood and elementary teachers fear the standards will undermine use of DAP, particularly because initial standards focus only on language arts and mathematics. In addition, critics of the CCSS perceive national benchmarks as antithetical to teachers’ power to individualize learning for each child, a central requirement of DAP. Others, however, note that the standards emphasize thinking and problem-solving skills and that using DAP will only help children gain CCSS competencies. Whether

the CCSS derail DAP or increase the use of DAP, especially in the early grades of primary school, will depend on how well teacher preparation and training programs explain the relationship between standards and implementation of appropriate experiences and activities.

Universal Pre-K Initiatives and the Pre-K to Third Grade Movement

Oklahoma was the first state to offer public prekindergarten on a voluntary basis to all 4-year-olds in the state, followed by Florida, Georgia, and now several other states. About half of 3- and 4-year-olds in the United States attend preschool, and about one third of them are in a publicly supported program. Programs using public dollars are more likely than privately funded programs to have quality requirements based on DAP guidelines, as well as accountability measures that determine whether programs are using the most effective practices (i.e., DAP). As the availability of public pre-K rises, awareness and implementation of DAP is likely to rise as well. In addition, organizations, state leaders, and school administrators are working to better align curricula and teaching methods between levels of education from preschool to the early primary grades, which could raise discussion about best practices for children up through age 8. These initiatives may ironically lead to higher expectations for children's performance that some consider to be at odds with DAP unless all relevant stakeholders understand the principles behind DAP.

Conclusion

Other trends and issues, including conversations about closing achievement gaps for low-income children, the unique needs of and challenges for children in immigrant families, and the rise in childhood obesity and cuts to recess and physical education time, could also impact awareness of DAP. Collectively, these trends and policy matters will impact the degree of understanding educators and families have about what constitutes DAP. Yet research and practice will also continue to inform what constitutes DAP, which is not a static single

entity but a dynamic, multidimensional set of practices. As educational, neuroscientific, psychological, and economic research unfolds and converges with the long-standing strengths and emphases of the early childhood field, professionals will continue to discuss, debate, and refine definitions of various dimensions of DAP. The topic is likely to become increasingly relevant as early childhood gains stature on the national and international education stage, especially as leaders finalize decisions about universal access to comprehensive early childhood education within the post-2015 worldwide Sustainable Development Goals.

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See also Child Development and Early Childhood Education; Common Core State Standards; Direct Instruction; Early Childhood Education; Play and Early Childhood Education; Policy and Early Childhood Education

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DIFFERENTIATED INSTRUCTION AND ASSESSMENT

Differentiated instruction is a teaching approach in which a teacher designs curriculum (i.e., what to teach) and instruction (i.e., how to teach) based on children's interests, developmental readiness, and learning needs. A teacher who adopts differentiated instruction as her teaching philosophy authentically assesses children's current knowledge and skill level, sociocultural background, and

special learning needs. Teachers use this information to plan learning experiences that would optimally challenge and elevate children to a higher level of ability and understanding.

This entry aims to inform the reader about differentiated instruction and assessment in the early childhood education context and to provide a concrete description of this approach and its implementation steps pertaining to education of young children. The entry begins with explaining the definitions of *differentiated instruction* and *assessment* and how the two concepts intertwine during the teaching process. It further illuminates crucial elements of differentiated instruction and assessment and, finally, outlines steps that early childhood teachers should follow in order to implement differentiated instruction and assessment to address and respond to young children's learning needs.

Definition of Differentiated Instruction and Assessment

Increasing diversity among children's culture, language, ethnicity, socioeconomic background, and individual abilities is observed across all levels of education including early childhood. Present-day early childhood programs are considered as the first step to schooling for children from birth through kindergarten. Therefore, early childhood teachers face the challenge and responsibility of adequately addressing very young children's varying learning needs and preparing them for what is to come in their educational journey. An effective response to this issue is to adopt differentiated instruction. Carol Tomlinson, who is a prominent teacher and an education researcher, has written extensively about differentiated instruction and assessment and has helped educators to understand this teaching philosophy. Although her work mostly focuses on elementary, middle, and secondary education, principles that she laid out shed light on the context of this entry, which focuses solely on early childhood education.

Principles of respect for individual children, acceptance of their different abilities, setting high standards for every child, and most important, a

passionate belief in every child's learning potential form the philosophical basis for differentiated instruction. Each child has different learning needs and levels of understanding and brings into a classroom his or her unique interpretation of the world. Through differentiated instruction and assessment approaches, teachers identify these differences and needs, assess proximity of each child to the curriculum goals and objectives, and design learning environments and experiences that support young learners.

Assessment, as a crucial part of differentiated instruction, is the process of gathering data on individual children's learning and development. The differentiated instruction approach, in the early childhood context, requires teachers to assess children systematically to be able to depict a strong and clear picture about children's learning interests, what prerequisite knowledge and skills they need to acquire to advance to higher levels of learning, and finally how children can most effectively learn and apply new knowledge and skills to new contexts. Assessment in an early childhood education classroom is conducted (authentically) on a daily basis through thoughtful planning. A teacher who implements differentiated instruction incorporates different assessment strategies such as divergent (open-ended) questioning; keeping anecdotal notes and running records through daily observations; applying checklists; collecting children's work samples; recording children in different learning environments via photography, audio, and video recording; and interviewing children and family members.

Utilizing data gathered from assessment, teachers design differentiated learning experiences for children. Learning often takes place in small group settings, in which children can comfortably express themselves in creative ways as well as receive immediate and individualized feedback from their teachers. A typical preschool classroom is set up around activity centers (blocks, dramatic play, art, manipulatives, reading and writing, science and discovery, sensory, gross motor, etc.), where children are involved in small group learning. A low teacher-to-child ratio provides teachers with time

to rotate among activity centers to observe children's development and progress as well as scaffold their learning. Such settings encourage independent decision making as to which center children can choose as well as presenting teachers with opportunities to observe children's varying knowledge and abilities on different tasks.

In summary, differentiated instruction and assessment are two intertwined procedures of early childhood curriculum and instruction, and thus they reciprocally inform each other. Teachers use this process to improve learning environment for children and design more effective learning experiences for them. A teacher who utilizes differentiated instruction incorporates assessment of learners in every step of the teaching and learning process.

Core Elements of Differentiated Instruction

This section focuses on four core elements of differentiated instruction in the context of early childhood education: content, child, teacher, and learning environment.

Content

Teachers who adopt differentiated instruction and assessment organize early childhood education curriculum based on careful observation of children's interest areas as well as the social context in which they live. A developmentally appropriate curriculum centers around overarching themes to allow children to study a big idea with its different components throughout a time span. In that sense, the project approach and emergent curriculum fit in the description of such curriculum. Through a project approach, teachers organize various levels and layers of learning activities. These learning experiences present a continuum and are connected to children's existing knowledge and skills as well as the social-cultural background they come from. Consequently, a meaningful content that is connected to children's lives increases level of engagement, attention, and motivation during the learning process.

Teachers can integrate different subject matter areas (e.g., literacy, art, science, math, social studies) throughout project methods, therefore providing a range of rich learning experiences from which children can freely choose. For example, "transportation" as a central curriculum theme is very familiar to young children. Children can explore different means of transportation used in their community (social studies), practice traffic safety rules (health and safety), create rules for their own classroom (literacy), and design a school bus out of a large cardboard box (science, math, art). Such range of activities designed for children contributes to more than one developmental domain (e.g., cognitive, language, social-emotional, and physical) and subject matter area (e.g., social studies, health and safety, science, math, art, literacy). Furthermore, children integrate different sensory areas of their brain, which in turn increases the brain activity and strengthens neural connections.

As they implement differentiated instruction, teachers design learning activities by keeping children's learning needs in mind. For example, visual traffic signs could be easier to follow and grasp for some children, whereas tactile learning opportunities such as taking apart and putting together a toy truck could be more appealing to others. Howard Gardner's multiple intelligences theory serves as a guide for early childhood teachers who strive to understand how children's intelligences work and the different ways in which children learn and interpret knowledge. Observation and assessment of these individual learning preferences are crucial to planning and implementing a developmentally appropriate curriculum for young children.

Child

Early years are perhaps the most unique time in human life in which development changes most rapidly. Children's development in preschool years (ages 3 to 5) varies so greatly that a teacher is likely to have a range of ability levels in his classroom. For example, one 4-year-old may recognize all letters of the alphabet, whereas another

4-year-old may already start writing her full name. This variation in language and literacy development can only be identified through authentic assessment of children's abilities. Pre-assessment of children's abilities and skills allows teachers to identify children who have similar levels of development and a common learning pace. Teachers can therefore organize activities that will appropriately challenge and advance them in those areas. Continual assessments and post-assessments help teachers monitor children's progress closely, measure if the curriculum and instruction implemented respond to children's learning needs, and make necessary accommodations for different learning groups. Pre-assessment data help teachers to determine the appropriate learning goals and objectives for children. The most crucial part of choosing learning goals and objectives is adopting a strengths-based approach and accepting each child as a capable individual instead of focusing on each child's deficits.

Even young children have a preference and area of interest as they explore different concepts. Through differentiated instruction, teachers build on children's interests and extend the children's learning to other content areas. Children who are involved in learning experiences that are appealing to their interest and learning style will develop love for learning early on, which will affect their schooling in later years. In fact, research has shown that children who are engaged in meaningful and active learning experiences in early childhood are more enthusiastic toward learning new subjects, more motivated to take on new learning tasks, and, in turn, have higher academic performance.

Through differentiated instruction, children receive encouragement and guidance from their teachers. They gain confidence in solving problems, take initiative to explore content, gain responsibility, and learn democratic skills. For example, teachers can involve preschoolers in creating a set of classroom rules at the beginning of the school year. Each child's opinion is valued and respected equally. The group votes on the most important five rules, and children can have a voice as well as learn respect for others' opinions.

Teacher

An early childhood teacher's teaching philosophy and dispositions about educating young children shape the teacher's relations with students, his approach to planning and implementing curriculum and instruction, his way of organizing learning environment, and, most important, how he supports students' learning.

Positive relations with children lay at the core of differentiated instruction. Warm and reciprocal relationships established in the classroom allow children to act and express themselves genuinely. Having conversations during daily routines such as mealtimes or cleaning, participating in children's play, or simply being present help teachers gain an understanding of what each child is capable of and what strengths the child has. Differentiated instruction requires teachers to look at children from a responsive perspective (instead of a more common deficit perspective) in which teachers recognize children for their unique abilities and strengths rather than their challenges and insufficiencies.

An effective teacher builds on children's self-esteem and positive self-concept by encouraging them to demonstrate their strengths as well as to set up simple steps to complete challenging tasks. For example, a 4-year-old preschooler may still have difficulty with one-to-one correspondence of numbers up to 5, yet the same child can identify and label complex geometric shapes such as a trapezoid. A skilled teacher carefully observes and meets this child where he is in his cognitive skills. The teacher integrates three-dimensional objects in the manipulatives center as she helps the child count all the sides of a shape in order to help him make a connection between single-digit numbers and how those numbers are used to represent objects.

The teacher is aware that all students deserve a right to quality early childhood education in order to acquire fundamental knowledge and skills that are necessary for their future academic progress. He respects every child in his classroom as well as children's families regardless of social, cultural, ethnic, linguistic, and economic background. Teachers who adopt differentiated instruction

create a democratic learning environment in which children have a voice and opportunity to make independent choices for their learning.

The first and utmost important task a teacher performs in the parameters of differentiated instruction is the pre-assessment of each child's existing knowledge and skills. Information gathered through this process allows a teacher to meet children where they are developmentally and then to organize learning experiences around the children's level of understanding and abilities. The teacher establishes an ongoing assessment process in his classroom to monitor children's progress and uses the assessment data to appropriately respond to children's learning needs. He also constantly assesses his own teaching and reflects on what works best and what needs to be improved in his instructional style as well as planning curriculum and learning environment. Such ongoing assessment and reflection cycle increases the quality of education and benefits young children.

An early childhood education teacher who adopts differentiated instruction as his teaching approach sets up high standards for every student in his class, including children with special needs. The teacher selects learning goals and objectives appropriate for children. These learning goals and objectives are based on empirically based child development knowledge, pre-assessment of each child's knowledge and skills, and social-cultural background. Early childhood education teachers utilize early learning guidelines that their respective state adopted. These standards are aligned with each state's K–12 learning standards in order to create a continuum throughout children's schooling experience. The early learning guidelines stretch through a wide behavior spectrum (e.g., cognitive, language, social-emotional, and physical) considering the great variation in learning and development in early years of life and, in turn, provides a flexible framework for teachers to adjust their instruction for individuals or groups of children in their classrooms.

Adopting learning goals and objectives for children helps teachers anticipate certain outcomes and advancement in children's skills and prepare appropriate learning activities. For example, a

teacher is aware that a typically developing young preschooler (3 to 4 years old) can name some of the letters in the alphabet, whereas an older preschooler (4 to 5 years old) can recognize most of the letters in the alphabet. Therefore, this teacher would explicitly point to the beginning letters and sounds of words during a book reading activity. Keeping in mind learning objectives, this teacher guides and scaffolds children's learning through asking thought-provoking, open-ended questions and promoting divergent thinking.

Learning Environment

When organized effectively, a classroom environment becomes a second teaching agent for children. Early childhood education classrooms are organized based on activity areas such as blocks, manipulatives, dramatic play, reading/literacy, writing center, discovery, and art. A theme-based content curriculum with its learning activities and materials is infused throughout these centers. As children rotate among different learning centers, they find opportunities to engage in solitary as well as small and large group learning.

Learning materials integrated in a learning environment adopting differentiated instruction are appropriate for children's developmental as well as learning needs, neither too challenging nor understimulating. A range of learning tools is easily accessible for children in order to promote independent decision making and responsibility for their learning. Materials that are open-ended in nature and promote creative and critical thinking in children are the most appropriate ones because they promote learning through trial and error and integrating multiple senses.

Such a learning environment is child centered, meaning that the activities and materials are chosen carefully and considerately to help children meaningfully make connections between what they already know and are capable of and what they encounter in a learning environment. To prepare a child-centered learning environment, teachers authentically observe children's existing abilities and knowledge level, subjects that they are interested in, and specific learning needs that they are expected to

meet. Open-ended activities and materials provoke thought and wonder in children. A great example of this process can be observed in Reggio Emilia early childhood programs that originated in Italy and are based on the idea that children's interests and curiosity in the world surrounding them should be the leading force behind the curriculum and instruction designed for them.

The classroom schedule is flexible enough to allow children space and time to practice newly acquired skills and also expand to new ideas and thoughts. Furthermore, a flexible schedule enables teachers to attend to small groups of children, observe and monitor children's progress, guide their learning, and give feedback on their actions.

Steps to Implement Differentiated Instruction and Assessment

Effective implementation of differentiated instruction and assessment in an early childhood context proceeds through the following steps:

1. Conduct a pre-assessment of children's existing knowledge, skills, and experiences. Teachers must first see where children in their classroom are developmentally and academically. To gain this understanding, teachers conduct authentic assessment methods and gather objective and clear information to know each child in their classroom.

2. Select concepts that are appealing to children's interests and the social-cultural context in which they live. A project-based curriculum approach has been proven to be a very beneficial curriculum method with young children.

3. Set up clear learning goals and objectives that are developmentally appropriate for children. This process almost goes simultaneously with the pre-assessment process, which helps teachers identify the goals and objectives targeted by the curriculum.

4. Plan learning experiences. Pre-assessment of children's knowledge and skills, their individual interests, and learning goals and objectives that are set up accordingly are major determining factors in

the kind of activities teachers plan for children. Learning experiences that appeal to different intelligence areas and integrate different sensorial and brain regions are more meaningful and more likely to be recalled by children in the long run.

5. Conduct ongoing assessments and post-assessments of children's progress and teacher's curriculum and instruction. Teachers continually assess children's progress and make adjustments to the learning environment, learning experiences, and the instruction provided. A post-assessment of children's progress allows teachers to see whether children were able to accomplish the goals and objectives aimed for them. Teachers also reflect on their instructional performance to evaluate whether the curriculum and instruction, assessment methods, and the learning environment effectively responded to children's learning needs.

In conclusion, differentiated instruction, along with authentic assessment, aims to increase effectiveness of curriculum and instruction provided in the class and meet the learning needs of individual children.

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See also Approaches to Learning; Authentic Assessment; Curriculum and Early Childhood Education; Developmentally Appropriate Practice; Multiple Intelligences; Project Approach; Reggio Emilia Approach

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DIFFERENTIATION

Differentiation or differentiated instruction (sometimes referred to as DI) is the adaptations or changes made to instruction in order to meet all learners' needs. This entry describes the reasons for differentiation in early childhood education and how to create differentiated instruction in the classroom.

Rationale for Differentiation

Differentiation is based on the philosophy that all children can learn but each child is unique and learns at his or her own pace. Instruction is not one

size fits all, and very young children—even if they are all the same chronological age—can span a range of developmental milestones. It may also be important to note what differentiation is not. It is not a different program of study for each student (this would be an individualized education plan or program [IEP] for a child with a diagnosed special need and is not always possible). Children have varying experiences, ranges of interest, and abilities and come from different family and cultural backgrounds. In inclusive classrooms where typically developing children and children with special needs are educated together, differentiation becomes a staple for classroom teachers, helping them to teach a room full of children all at different levels with varying degrees of need. Because one way of teaching will not meet all children's needs, differentiated instruction allows educators to create one flexible lesson plan to meet all children's needs. Teaching is successful only when children learn or show progress. Success does not mean that all children get the same instruction, but each student gets what he or she needs. Because not all children start in the same place and not all children will progress at the same pace, a varied form of instruction is essential regardless of special need.

This philosophy and best practice in early childhood education require teachers to know children and families well. Knowing where students are, where they are starting, and their interests and cultural frameworks will enable teachers to create differentiated instruction. Baselines, screenings, home visits, and other authentic forms of assessment are used to determine where and how to start instruction. Then teachers use this information to design instruction for their class. Differentiation is not easy and requires a lot of time, planning, and training. It is often difficult to keep instruction, assessment, and curricula developmentally, individually, and culturally appropriate. Because differentiation can be misunderstood, teachers benefit from professional development.

Creating Differentiated Instruction

Differentiation and developmentally appropriate practice (DAP) are grounded in meeting children

where they are and taking into account each child's level, interests, culture, and ability. Differentiated instruction can be adapted in four major ways to meet learners: content, process, product, and environment. Each area of differentiation, when intentionally implemented, can ensure all children have access to teaching and learning.

Content can be differentiated by addressing the overall major goal or outcome desired. Reviewing the objective and scaffolding the prerequisite skills needed to get to this goal will assist students not quite ready to move on. When teachers know students well and understand pedagogy, this type of differentiation can be address based on the child's current baseline or skill level. Once established, the sequence can be followed to adapt content needs and final objectives. Differentiating for content requires frequent assessment and progress monitoring to be sure the overall objective will be met.

The most frequently used example of content differentiation is leveled readers. This allows children to read about the same topic or practice similar literacy skills while interacting with text at their own level. When differentiation is based on process, the teacher considers how the children are going to meet the required objective. Rather than one prescribed way, there may be many pathways to meeting this objective or skill. Consider other ways the child could ultimately arrive at the same goal but use a different way to get there. Frequent and varied attempts, including kinesthetic, verbal, musical, spatial approaches, and so on (consider Howard Gardner's theory of multiple intelligences) are ways to meet the required objectives. Some students may require more time on task, various active ways to respond, picture cards instead of verbal responses, and so on. Students' interests should be considered.

The product can be adjusted to show growth or learning. The final product or final evidence used to show the objective has been met can be adjusted to best fit the need of individual children. Here the child should be allowed to show what he or she learned in the best way possible. The child can express his or her own learning in various ways.

The environment can be adapted to ensure all children have access to materials and activities.

Universal design for learning (UDL) has its roots in architecture, where buildings are designed with ramps, elevators, and curb cuts. These building features allow citizens in wheelchairs access to the building but these features, although designed to assist people with special needs, also benefit mothers with strollers and deliveries made on carts. UDL provides children with special needs access to the classroom and materials but also benefits all children.

Differentiated instruction is not tracking students, forming fixed grouping for instruction, or labeling children. Differentiating instruction requires teachers to create flexible lessons by adjusting the content, process, product, or environment for one lesson. All children learning together can participate in instruction based on the adaptations or changes made by the teacher for this specific group of learners.

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See also Developmentally Appropriate Practice; Differentiated Instruction and Assessment; Early Childhood Inclusion; Individualized Family Service Plan and Individualized Education Program

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DIFFICULT TEMPERAMENTS, CHILDREN WITH

Children are born with certain characteristics that influence how they respond to their environment and the people in their world. These traits, often referred to as temperament, are the cornerstones of a child's personality and will determine how the child approaches and responds to the world around him or her. This entry explains what is meant by the term *difficult temperament* and discusses strategies that can be used to support children with difficult temperaments.

Temperament can be determined by observing a child's behavior. There are three categories traditionally used to describe a child's temperament: easy, slow-to-warm up, and difficult. A child described as easy will be able to go into different settings without getting anxious or upset, whereas a child described as difficult might cry and scream whenever a new person, setting, or activity is introduced to her. These categories are simply descriptive of how a child responds within certain environments and should never be used to determine whether or not a child is "good" or "bad."

It is estimated that approximately 10% to 20% of all children have issues that can be described as difficult temperament. Traits associated with difficult temperament include the following:

- Impulsivity
- Hypersensitivity to sensory stimulation (noise, temperature, smells, etc.)
- Resistance to changes in daily routines
- Anxiety and fear in regard to new activities
- Easy distractibility
- Inability to calm down when agitated
- Irregular sleeping and eating patterns
- Intensive mood swings resulting in "acting out" or completely withdrawing from social situations

Such behaviors can be difficult at times for parents and teachers. However, a child with difficult

temperament can learn coping strategies to help him deal with these issues. If he does not learn how to manage his own reactions to things, he is likely to become confused, frustrated, and angry. In addition, he will receive negative feedback, which results in low self-esteem and a sense of failure. It is important for teachers, as well as parents, to develop attitudes, guidance strategies, and communication skills that will enable a child with difficult temperament to be successful, cooperative with others, and able to adjust to new environments.

The following strategies are designed to help parents and teachers provide support for a child with difficult temperament.

Use consistent routines that incorporate taking care of basic needs. For example, make sure the child has plenty of rest and eats nutritious meals low in sugar and high in complex carbohydrates. If at all possible, establish regular bed time routines that include time for reading, snuggling, and relaxing before going to sleep.

Always tell the child what is going to happen next. A child with difficult temperament does not like surprises. If there is going to be a change in routine, such as not going to music time or not going outside, tell the child and allow him to have time to process that information.

Establish environments that are sensitive to the sensory needs of the child. That means providing a place where she can go to take a "break" from the noise in the classroom. It is also important to monitor the temperature of the classroom, the noise level, and the overall sensory stimuli bombarding the child.

Encourage self-awareness and self-management of behaviors. For example, if a child is going to go to a new place, talk about it with him before you go. Describe what he will be doing, who he will be seeing, and what demands might be placed on him in that setting. Comment when you notice that the child is reacting strongly to environmental stimuli. For example, "You spit out your chili. I bet it was too spicy for you to eat. Next time tell me if your food is too spicy and I will get you something else."

Describe for the child positive behaviors you see in others that you would like for the child to emulate. If you notice two children sharing, you might say, “Look, Sarah is sharing her book with Dion.”

Give instructions one at a time. A child who is easily distracted has considerable difficulty remembering more than one thing at a time. It is possible that he will become frustrated if he is asked to do several things at once.

Plan transitions that encourage positive behaviors. Transitions are frequently times when a child with difficult temperament will have issues or get upset. Remember to tell the child a few minutes before it is time to change activities so she can process the information. In addition, transitions that are fun, such as flying like airplanes, hopping like a rabbit, or humming a song, can make a child feel more relaxed.

Remain calm when outbursts or tantrums occur. For example, say things like, “Please speak softly, there are others trying to work,” or “Take a deep breath and tell me what has upset you.”

Social skills can be taught through modeling and positive peer interactions. Work on behaviors such as negotiating a dispute with a peer, sharing a favorite toy, inviting others to play, asking others if you can join their play group, offering to help others, and calmly communicating your needs.

Provide choices whenever possible. Although you want to offer a child only two or three choices (too many can be overwhelming), it is always a good idea to ask a child what he prefers. This can be as simple as asking if he would rather play with blocks or play with puzzles, or if he would rather eat corn or green beans for lunch. It is, however, important to recognize that some choices can’t be offered, such as whether or not to put on a coat when the weather is cold.

Conclusion

With consistent routines, teachers and parents who remain calm when the child gets upset, and

environments that do not overstimulate, a child with difficult temperament can be successful in the classroom and at home. Remember a child with difficult temperament may be confrontational, so choose your battles wisely and avoid power struggles. The most effective strategy for working with a child with difficult temperament involves being proactive rather than reactive. Being proactive means that you recognize what triggers undesirable behaviors and you try to eliminate those elements from the child’s environment or adapt the environment in a way that elicits a positive response. For example, if you recognize that Carl gets upset when you ask him to put up his blocks, you adapt the environment by giving him extra time to finish building with his blocks.

When outbursts and setbacks do occur, it is important to use age-appropriate consequences. If at all possible do not raise your voice or threaten consequences that you can’t implement. By remaining relaxed and matter-of-fact, the child will eventually calm down. By partnering with the child’s family to implement consistency in routines and daily activities at home and at school, a child with difficult temperament can be successful and learn to self-manage his or her behavior. In the event a child continues to have difficulties, there are clinics and psychologists who specialize in working with a child who presents severe behavior challenges.

Clarissa Willis

See also Challenging Behavior; Guiding Behavior; Healthy Environments for Social-Emotional Development; Kindergarten Environments; Temperament

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DIRECT INSTRUCTION

Direct instruction is an approach to teaching that is teacher-directed and emphasizes well-planned lessons in which the skills taught are broken down into small units and are explicitly taught in a systematic way. Direct instruction can be used individually with children, in small groups, or in large groups. Research shows that direct instruction can be effective in teaching a wide range of skills, particularly basic foundational skills, in early childhood education.

Direct instruction is based on the philosophy that when instruction is clear and free of misinterpretations, children's learning can improve at an increased rate. Rooted in behavioral theory, direct instruction evolved from the idea that behaviors learned are those that result in favorable consequences.

History

In the 1980s, a series of experimental studies conducted by many different researchers trained teachers to use different teaching strategies and then assessed the effects on children's learning compared to children who were not taught by teachers using those strategies. Common elements of the teaching strategies were identified, including teaching in small steps with student practice after each step, guiding students during initial practice, and ensuring that all students experienced a high level of success. Sometimes referred to as systematic teaching, explicit teaching, or active teaching, the term *direct instruction* was established in 1986 to describe these practices.

Key Components

While there are variations of direct instruction, this structured, teacher-directed approach includes several key components. These components are as follows:

- Materials and curriculum are broken down into small learning increments organized in a prerequisite order.
- Explicit step-by-step teaching and presentation of the material to the child is provided.
- Frequent opportunities are given for children to respond and practice with each step.
- Feedback is provided after each practice opportunity through reinforcement or error correction.
- Clearly stated objectives in terms of learner outcomes or performance are set for the child to master.
- Teacher-directed activities are gradually decreased so that children can have additional opportunities to practice skills with increasing independence.

Direct Instruction Models

Behaviorally Based Models

The initial direct instruction model was developed in 1966 by Carl Bereiter and Siegfried Engelmann and consisted of three stages: (1) introduction to the new content to be learned, (2) an interactive and scripted presentation of the lesson, and (3) guided practice with immediate feedback that is first teacher-directed and then shifts to independent practice that is closely monitored by the teacher. Programs evolving from these models include DISTAR (Direct Instruction System for Teaching Arithmetic and Reading), Project Follow Through, and the Tucson early education model.

Effective Teaching Models

In the 1970s, the initial models were refined into "effective teaching" models with the following three stages: (1) some type of opening activity, (2) the main lesson presentation, and (3) opportunities

for practice. Specific examples of these models include Barak Rosenshine's explicit teaching model, Thomas Good and Douglas Grouws's strategies for effective teaching model, and Madeline Hunter's design of effective lessons model.

Expository Teaching Model

The expository teaching model builds on direct instruction and focuses on time and control to help children learn concepts, principles, generalizations, and rules. Teaching procedures begin with activating children's prior knowledge to then help develop definitions of the new concepts that make sense to them. Children actively participate in activities and provide their own examples to promote practice and receive immediate feedback.

Research and Misconceptions About Direct Instruction

Research has shown direct instruction to be highly effective for teaching young children. Specifically, when designed and implemented correctly, direct instruction is useful in maintaining time on task as well as the learning and/or performance of new skills. Furthermore, research also indicates that direct instruction can be particularly effective in teaching young children with special needs.

There are several common misconceptions about direct instruction. These include that direct instruction is a lecture approach, when in fact it is an instructional model that focuses on the interaction between teachers and children. In addition, some believe that teachers can only choose one approach: direct instruction or free play. But direct instruction versus free play is a false dichotomy. Both direct instruction and free play have roles in high-quality early childhood education. Early childhood educators can use developmentally appropriate practices to determine how to balance and use both direct instruction and free play in the classroom.

Connie Wong

See also Atypical Development; Behavioral Theory; Special Needs; Teacher-Directed Learning

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DISPOSITIONS

See Professional Dispositions of Early Childhood Educators

DIVERSITY IN EARLY CHILDHOOD EDUCATION

Wherever we are, life in today's society is an unparalleled journey for everyone, but especially for children. Growing up in a society where changes are rapidly happening and new paradigms are being defined, the early childhood years unfold in an environment filled with excitement and also with challenges never before experienced. Within the context of the 21st century, the landscape of childhood is characterized by experiences in a society where every facet of diversity is present. In communities across the United States, the voices of children speaking in many languages with cultural roots in places local and distant, playing alongside peers with different views and abilities, tell the unfolding reality of early childhood education today.

Diversity, the Reality of Human Life

As a descriptor of human experience, emphasis on diversity has brought attention to the range of characteristics portraying people. Individual reality is influenced by the lens of diversity, where traits such as culture, ethnicity, language, abilities, age, religious beliefs, gender, and social and economic circumstances play a significant role in shaping ideas and behaviors. Diversity traits serve as the filter through which people approach and respond to life events. From the early years, a person's characteristics and unique experiences impact one's views and ideas shaping individual identity. Lack of understanding and unfamiliarity about realities diverging from those of their own, however, sometimes lead to prejudiced and unfair practices toward people, which has also spilled out into education. Today, misconceptions and lack of understanding about other realities still

challenge society and call for actions to ensure socially just educational services and programs for all. These actions must begin in the early years underlining the important focus on diversity in early childhood education.

Current efforts in early childhood education in support of fairness and equity follow the pursuit for recognition of diversity and implementation of culturally based education practices. Through the multicultural education movement, educators and leaders have worked for many decades advocating for the rights of all children. Multicultural education in the early years has brought attention to the role that individual experiences and cultural heritage play in the development and education of a child. This emphasis continues today.

Acknowledgment of people's multiple diverse realities has influenced the global social and political agenda. It has also uncovered the existence of inequalities, bringing forward the need for leading efforts in all aspects, particularly in education. Although the rights of all children are recognized today, reality still shows serious disparities in availability of educational programs and in the quality of learning experiences. Statements from the United Nations Educational, Scientific and Cultural Organization (UNESCO)'s *Incheon Declaration—Education 2030* (UNESCO, 2015), indicating that “no education target should be considered met unless met by all” (p. 2), reaffirm the pressing need for ensuring parity in services for every child. It also discloses the fact that access to equitable educational experiences is one of the markers society still aims to achieve, as stated in the United Nations Children's Fund (UNICEF)'s *The State of the World's Children 2015*. Today, despite a greater attention to diversity, much is still to be done in the overall societal arena. The plea for equality continues as an assertion of the rights of children to obtain and enjoy quality educational experiences. This establishes direction and sets the agenda for diversity for young children.

Diversity in the United States

In the United States, a nation with origins rooted in immigration, diversity is a denominator surfacing in

every aspect of social life. U.S. society has showcased the many cultures of people who came during the past, and continue to arrive today, in search of opportunities. Diversity has become not an isolated detail but rather a pattern describing people across the country. With demographic projections denoting an increased level of racial and ethnic diversity by the year 2060, U.S. Census reports foresee cultural plurality becoming the main societal descriptor in the United States. Among other factors contributing to the growing diversity in the United States, the steady flow of immigration that once gave place to the origins of U.S. society is predicted to remain one of the main forces. Societal challenges and political unrest, along with war and conflicts in other parts of the world, have forced many families to leave their countries, seeking better opportunities in the United States. The result is the rising presence of immigrant families and young children with diverse linguistic and cultural roots in classrooms across the nation.

Addressing Diversity in Early Childhood: The Legacy of the Past

The path leading to early childhood policies and practices addressing diversity has been a long journey that continues today. Although social and cultural diversity has always been present in U.S. society, recognition of the rights of individuals with diverse backgrounds and cultures evolved out of milestone efforts of leaders such as Dr. Martin Luther King Jr., who advocated for the equal needs of individuals during the civil rights movement. The work of these leaders upheld the rights of all people beyond social or individual differences and brought changes to education evidenced by the different laws and programs adopted. Programs such as Head Start and Early Head Start were created in response to the needs of children from socioeconomically challenged groups and from cultural and ethnic minorities, according to Edward Zigler. Laws mandating services and programs for young children with special needs recognizing their rights to quality educational experiences were also enacted during this time.

Emphasis on multicultural education practices and experiences brought attention to the diversity of cultural realities of children and communities, while anti-bias approaches have spurred the integration of social justice concepts as part of children's learning experiences. Yet, despite what has been accomplished, the need to emphasize the diverse reality and needs of culturally and linguistically diverse children, irrespective of their unique traits, continues today as one of society's challenging tasks.

Current Diversity Realities in Early Childhood Education

The global community in recent decades has seen dramatic social and economic changes. This has also been the case in the United States, where the impact of changes on families and children is evidenced in classrooms and programs everywhere. Social and political struggles have led to a continuous flow of immigrant families, particularly those of Hispanic roots, transforming the landscape of the country and underlining the need for attention to their cultural and linguistic realities.

Growing up in a culturally and linguistically different environment, immigrant children are challenged to adapt to other lifestyles and language to successfully gain membership into their host society. Spanish-speaking young children draw attention to current language and literacy strategies, reigniting arguments on linguistic practices for children acquiring English as a second language. Already the largest ethnic group in the United States, according to the U.S. Census Bureau (2013), Hispanic families and children have brought to the forefront the reality of language diversity of other ethnic groups with primary languages other than English, evidencing the pressing call to redefine and establish appropriate linguistic policies. Innovative policies and legislation, similar to that of Florida's Consent Decree, that affirms the rights to equitable educational practices of culturally and linguistically diverse individuals, are still needed to guarantee equitable and developmentally sound practices. Practices and approaches

on preservation of heritage languages emerge as a challenge making the case for redefining the nature of practices for children who are dual language learners, according to Eugene E. Garcia and Ellen C. Frede.

From a sociocultural perspective, the early years are the time when children's cultural identity starts to surface. Language plays a central role in this process, helping to connect individuals with their heritage. Immigrant children growing up in a society where the language and culture diverge from their own find this is a challenge, many times implying the loss of their sense of cultural heritage, especially as their home language fades away. Developmentally based pedagogical efforts are needed and must be responsively aimed at supporting heritage and promoting successful dual language development.

The reality of families and children, across social and ethnic groups, living in poverty conditions is present in early childhood classrooms. In recent times, economic challenges and a weak employment market have contributed to an increase in poverty in the United States. Poverty, another dimension within the spectrum of diversity, demands understanding of the everyday reality experienced by families who struggle with limited resources. Thoughtful consideration of the multifold nature and reality of poverty is critically needed to ensure respectful early intervention services and practices toward family and child. From the standpoint of equity, allocation of funding to create and extend comprehensive programs and services remains essential. Effective and proper coordination among agencies is needed to reach out to children and facilitate ways for their families to overcome their challenges.

The influence of easily accessible media on young children may have facilitated their awareness of social and racial tensions, raising the urgency of action to prevent formation of inaccurate ideas about people. This has elevated the need for classroom experiences with deliberate integration of multicultural practices and strategies addressing diversity and promoting social justice awareness in the early years. Intentional efforts are essential to counteract misleading ideas and

promote appreciation for diversity and support nonbiased attitudes and behaviors.

Writing the Agenda on Diversity for Early Childhood

The agenda for addressing diversity today emphasizes the need for a clear understanding of the diverse cultural character of society and of the responsible actions needed to provide for the needs of children with diverse backgrounds. Life today in most communities means interaction with a multiplicity of cultures and people's distinctive traits, traditions, behaviors, and ideas. Given that this is the milieu where young children grow and develop, greater understanding of the influence of the environment and the role that culture plays must guide practices in early childhood education.

With an early education stance based on responding to what is developmentally and individually sound, the action agenda for young children must be anchored in their cultural and life realities and in the responsibility society has for their preparation for future life success. Among the main implications of this posture is making certain that educational decisions and policies are made with thoughtful consideration to the fact that a child's developmental path is inherently influenced by the child's culture, individual experiences, and interactions.

An Action Agenda for Today and Tomorrow

The diverse realities of families and young children prompt a call for socially just practices. It also delineates the tone for the early childhood action agenda. Although landmark developments and legislation on behalf of young children have taken place, the struggle toward accomplishing the goal of equitable educational practices continues. Critical to any considerations on appropriate responses to diversity is to approach early childhood programs and practices from the perspective of what is individually distinctive and unique to children. Rather than focusing on their differences,

decisions and actions on behalf of children must begin with an appreciation of their uniqueness whether cultural, linguistic, or any other diversity feature. This positive and child-centered stance directs us to value the landscape of heritage and experiences children and families bring into the classroom. Developmentally, it underlines the relevance of their cultures, interactions, and life events as a guiding element in educational decisions and practices. Deliberate and committed efforts toward developmentally and culturally based practices are critically relevant for early educators.

Within the paradigm of diversity-based practices, several concerns continue to challenge educators and policy makers, such as access and availability of services and programs, equality and fair practices, and pedagogically culturally responsive practices. Despite efforts from all sectors, the issue of access continues to challenge schools and agencies still facing how to guarantee that all groups receive and participate in the programs and services available. A multifold issue, it underlines the need to eliminate barriers hindering participation along with actions to secure the existence and availability of programs and services for families and children. The problem of program availability is yet to be overcome, particularly in economically challenged communities and in areas characterized by high numbers of immigrant families. Efforts are needed to avoid exclusion of those who have been marginalized because of race, culture, language, and other diversity factors. Removal of these barriers remains an urgent challenge, particularly in communities where lack of well-coordinated efforts and responsive communication strategies continues to diminish participation in services and programs. The issue is especially critical given the increased number of families and children living in poverty and of immigrant children and families with languages other than English and who, in many cases, are not familiar with the education processes in their newly adopted communities.

Culturally responsive and child-centered pedagogy is another critical item in the agenda for action. Considerations about teaching practices

emerge as a vital element given their influence on the child's development and potential for individual and future school success. The need to reenergize curricular experiences with the perspective of children's realities is critical as early childhood education continues to evidence the multidimensional nature of society and life experiences. Central to appropriate teaching and learning practices is the intentional integration and validation of the cultural experiences and ideas of children and families from diverse backgrounds. Emphasis on pedagogical experiences centered on what is familiar to children and reflective of their cultures effectively meets the goals of education for diversity, creating interest and leading children to learn about themselves and their peers in ethnically and culturally diverse classrooms.

From the perspective of social justice, equality and fair practices remain a challenge, especially as educators ponder how effectively early childhood education addresses the realities of families and children. The clamor for equal and high-quality early childhood programs across communities is clearly heard. With research findings revealing the effect of quality experiences on children's overall learning, efforts and programs must be guided by the parameters of quality early childhood practices. Central to attaining quality is preparation of professional early childhood educators who are knowledgeable about pedagogical practices and culturally competent to responsively address children's unique needs. Integral to achieving equality and quality is the issue of funding and resources allocated to programs that will also contribute to reducing disparities in programs and resources available for children and families across diverse communities.

Children in today's classroom are an everyday living testimonial defining the early childhood diverse community landscape. Projected social and cultural changes call for new policies and innovative practices to responsively tend to the needs of children in schools across the nation where so many classrooms already mirror the world's diversity. Responding to diversity and its call for culturally sensitive practices remains the challenge for early educators and society at large

if they are to fulfill the promise of equitable and fair education for all.

Wilma Robles de Melendez

See also Anti-Bias Education, Components of; Anti-Bias Education Theory; Cultural and Linguistic Responsiveness; Cultural Competence; Dual Language Learners; Equity and Equality in Early Childhood; Funds of Knowledge; Immigrant Children; Immigrant Families and Early Childhood Education; Migrant Families

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DIVISION FOR EARLY CHILDHOOD

The Division for Early Childhood (DEC), founded in 1973, is a nonprofit organization whose members include teachers, therapists, family members, and others who care for, or work on behalf of, children birth through age 8 with special needs, and their families. Children with special needs include those with disabilities or developmental

delays and those at risk for future developmental problems. The DEC has two main purposes: (1) to identify and encourage use of evidence-based practices that best support children's development and learning and (2) to promote policies that support children with special needs and their families. The DEC is one of 17 divisions of the Council for Exceptional Children (CEC), an organization focused on improving educational outcomes for students who have disabilities and/or are gifted. This entry describes the organization's goals, strategies, and major accomplishments as well as outlining its history.

Major Purposes and Goals

DEC and its members are committed to providing high-quality early intervention and education to young children with special needs and their families. To meet this commitment, the organization works in these areas: It advocates for laws and policies that support quality early intervention/early childhood special education; disseminates up-to-date research-based information on quality services and supports; develops standards and positions to guide the field; and publishes "Recommended Practices," a set of practices designed to link research with practice for professionals and families.

Advocacy

DEC maintains a governmental relations position and committee. DEC was a strong voice for the passage of Public Law (PL) 99-457, known as the Education of the Handicapped Amendments of 1986. The prior special education law, PL 94-142, known as the Education for All Handicapped Children Act, did not require services for children with disabilities younger than school age. Yet, the growing body of research, much of it done by DEC members, provided evidence to support the following contentions: that early intervention enhances children's development, enhances families' capacity to support their children, helps children and families be more successful in their communities, and reduces the cost of later special education and

special services. Many of the recommendations made by DEC and its partner organizations were written into the law, now known as the Individuals with Disabilities Education Act (IDEA). The organization continues to monitor legislation, recommend legislation that is consistent with research and values, and encourage advocacy efforts on the part of DEC members.

Dissemination

DEC shares information with its members and the larger early learning field through an annual conference and professional journals. The conference is held each year in the fall, and features workshops, research presentations, practitioner sessions, and networking opportunities for members to discuss accomplishments as well as issues and concerns.

DEC also publishes the research journal *Journal of Early Intervention*. Published quarterly, the journal features data-based articles on research and practice, policy analyses, research methods, and systematic reviews. *Young Exceptional Children* is a practitioner-oriented quarterly journal with a focus on implementing research-based practices in a variety of early care and education settings. Articles are written in a friendly, useful manner to reach an audience of teachers, child care providers, administrators, and family members. Each year, DEC also publishes an issue of the YEC (Young Exceptional Children) *Monograph Series*. The monograph brings together a set of relevant and accessible research-based articles on a single topic. Recent topics include families, challenging behavior, dual language learners, and assessment.

Position Papers

Periodically, DEC develops and distributes position statements as formal expressions from the organization on topics or issues of concern. Position statements are written by small groups of members and then submitted to the entire membership for review before being approved by the executive board. Some of these position

statements are developed jointly with the National Association for the Education of Young Children (NAEYC).

Perhaps the most widely referenced and used position statement is the one developed jointly by DEC and NAEYC in 2009 on inclusion. This statement went through a rigorous review and evaluation process. It outlines and defines the three key features of inclusion: access, meaningful participation, and system-level supports.

In addition, DEC works collaboratively with the CEC and NAEYC to establish and update standards for teachers and early intervention personnel.

Recommended Practices

Recommended practices are lists of practices that are generated by appraising the best available research evidence, gathering consensus views about professional knowledge, and verifying the practices through field validation. In 1991, a group of DEC members recognized that the field did not have a set of practices to guide teachers and other professionals in providing high-quality services and supports. The group embarked on a project to identify the practices using focus group methodology. The first set of practices was published in 1993. The effort was repeated about 10 years later but added an extensive, systematic review of the research literature. This revised set of practices was published in 2000, followed in 2005 by a comprehensive guide that included greater direction for implementing the practices. The most recent set of practices, based on an updated review of the literature, was published on the organization's website in 2014.

History and Major Accomplishments

The CEC, of which DEC is part, is the largest international organization of professionals in the field of special education. CEC works to improve the educational opportunities and quality of life for children and youth with exceptionalities. CEC has a strong role in advocating

governmental policies that support high-quality education for children and youth with disabilities and/or gifts and talents. It sets professional standards for the field and provides professional development. CEC holds an annual conference; publishes journals, newsletters, and position papers; and holds as a major responsibility the dissemination of up-to-date information on educating children with exceptionalities.

In 1964, CEC formed the Preschool and Nursery Committee, and in 1969 CEC held its first topical conference on early childhood. The organization known as DEC was founded in 1973. The first newsletter was published the following year, and DEC's journal, originally called the *Journal of the Division for Early Childhood*, was launched in 1979. In 1980, DEC joined with the Office of Special Education Programs, U.S. Department of Education, to sponsor the annual Handicapped Children's Early Education Program (HCEEP) conference. This federal effort funded demonstration projects that were designed to develop and disseminate effective intervention approaches for young children and their families. HCEEP, in many ways, helped give rise to the field of early intervention/early childhood special education; it provided the need and opportunity for professionals to work together and thus became the springboard for the creation of DEC. The work of these projects, as well as the advocacy of the organization, contributed to the passage of PL 99-457.

DEC held its first conference in 1985. At the annual conference the following year, members celebrated the passage of PL 99-457. This law required states to provide a free and appropriate education for preschool-age children with disabilities and developmental delays and provided incentives for states to serve infants and toddlers. Currently, all states provide services and supports for children from birth onward, guided by the federal law and the practices recommended by DEC.

DEC is an active membership organization. It counts as its most significant accomplishments the advocacy efforts that led to the passage of PL 99-457, the ongoing identification and dissemination of "Recommended Practices," and its service

as the voice for young children with disabilities and other special needs, their families, and those who work on their behalf.

Susan R. Sandall

See also Atypical Development; Developmental Disabilities; Differentiation; Early Childhood Special Education; Early Intervention; Early Intervention, Legal Basis for; Recommended Early Intervention Practice Guidelines

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DOCUMENTATION

For an educator, there is nothing more gratifying than seeing one's impact on learning. To be completely in sync with a learner, and responsive to his or her learning in the context of the classroom community, is the pinnacle of good teaching. Given there are many avenues to assessing the art of teaching and learning, none is more powerful than that of pedagogical documentation. Documentation is typically defined as using documents for authentication, to provide factual support, or to serve as a historical record. Missing from this definition is the essence of development that can be told through documentation, that is, the power of imagery and text in creating context for learning, or pedagogical documentation.

Documentation means many things to many people. Whereas a teacher may use documentation to prove effectiveness, the learner may see it as a way to reflect on his or her learning, a parent as a meaningful bridge between the home and school, an administrator as a way to help create a community of learners, and the public-at-large as a sign that the school deserves support in the financial and political arenas.

Documentation, in the academic sense, refers to describing the process of children's learning through observation, work samples, conversation logs, and children's and/or teacher's reflections. Carolyn Edwards suggests that, to impact learning, this information should be analyzed, interpreted, and shared with others. Although documentation is much more than assessing student learning, it can be one effective tool used in combination with the American educational need for "proof" of teaching and learning. When done in a thoughtful manner and with purpose and audience in mind, documentation adds the qualitative story to the quantitative measures of educational assessment.

Accountability and Standardization

The federal No Child Left Behind Act of 2001 required states and school districts to publicly report data on school performance. Collection and dissemination of standardized data is a key component for policy makers but does not provide a deeper understanding of learners as individuals and the impact of societal factors outside of school control. This age of accountability has forced learners to be neatly categorized by test scores and, in some school systems, teachers ranked by how well they can get the learner to conform to standards. School performance involves more than results on summative tests.

Although many educators will attest that nutrition, health, socioeconomic, and family support contribute to student success, how many are actively implementing meaningful alternative sources of assessing student learning? Somewhere in the battle for education for all, standardization has taken precedence. One way to overcome the

numerical categorization of learners is to document, or provide evidence of, learning as it occurs. In *Making Learning Visible: Children as Individual and Group Learners*, Claudia Giudici and colleagues suggest that using a variety of techniques, from photos and text to video and artifacts, to support learning and make learning visible is just part of the critical work in which educators must engage.

Standardized assessment does not mean standardization of instruction. It is still best practice to use data-driven decision-making practices. Although standardized assessment results can give one point of view on student development and teacher effectiveness, additional documentation is always necessary to put all of the puzzle pieces together. A number should not define a person; pictures, video, work samples, text, and the voices of learners can put the number into context.

Types and Uses of Documentation

Having learners reflect on their own development supports them in moving toward higher level thinking. Paper and pencil testing is not necessarily the best judge of student achievement or teacher effectiveness. However, there is a need for educators to use summative evaluation, or evaluation done at the end of a program for the purpose of decision making. Moving beyond test scores, the documentation of authentic learning and synthesis of information learned are necessary tasks for teachers and students. Engagement in metacognitive events such as reflecting on learning allows teachers to see where they have had impact and where they can improve and allows students to think about their learning. According to Lella Gandini and Judith Kaminski, using documentation to become articulate about learning allows the learner to revel in his or her successes and learn from his or her missteps. The most powerful part of the student-led conversation on learning is the student having ownership of the future of his or her education when the documentation is used by the teacher to plan individualized instruction.

If educators are invested in the idea that learners operate in a complex interaction of systems,

including homes, families, schools, and communities, then documentation allows them to make connections among these systems. This is yet another way to value the gifts each learner brings with him or her to the classroom. By using documentation in both formative ways (to monitor and provide feedback on progress) and summative ways, engaging the learner in the analysis of learning, and aligning standards and student learning outcomes with documented learning, teachers can meet the need for quantitative measures by boards of education while providing contextual support for learning through narrative. Documenting children's learning may be one of the most valuable skills a teacher can learn. When teachers carefully collect, analyze, interpret, and display evidence of learning, they are better able to understand how children learn and to help others recognize learning. Judy Helm, Sallee Beneke, and Kathy Steinhilber support these ways of documenting in their article "Documenting Children's Learning" by saying that regular and consistent documentation of children's work can benefit teachers by helping them see the learning process.

By using this more formative process, a teacher can be inclusive of cultural, gender, and familial representations of learning. The process of supporting summative evaluation with ongoing documentation shows respect for the learner as an individual and an individual who is part of a school, community, and family.

How to Implement Documentation

Whereas it is easy to amass a large quantity of "stuff" during an academic term, or year, it is wise to approach the data collection process with a plan. At first, the idea of collecting, organizing, and writing about artifacts for an entire classroom of children can be daunting. Defining the exact knowledge, skills, or disposition being evaluated makes the process for data collection all the more simple and efficient. There is no reason that a teacher would have to incur expense for documentation. Time is the only cost, and it is well worth the investment.

Documentation can be done in a way that makes sense for each classroom and within the

context of the organization. Teachers can use the materials and resources that are present. File folders of artifacts can be presented to learners who can then write about or orally express their meaning; this explanation can be added to a panel or shared at a conference. A simple daily journal with a few photos and text can capture the learning of one day or one event. A large poster panel can be used to document a journey or project. A video or voice recording of a child describing what he or she has learned through a process or lesson can be shared in a presentation. The avenues for sharing learning are endless and must be created in a way that is meaningful to the event, the learner, the teacher, and the audience.

Documentation is a form of assessment that can include the learner at all phases. Teachers can encourage PreK–12 students to help select items that represent their own learning. They can choose work samples (photos, recordings, etc.) showing a progression of development from beginning to end, from assisted to proficient. For example, samples can be chosen showing early attempts to form a written letter of the alphabet and showing the child's completion of writing his or her name. Whatever the evidence, it can be enriched by adding three elements: student reflections on learning, teacher connections between learning and standards, and teacher reflection on the meaning of the documented learning.

Children of all ages can articulate how they feel about completing a task, what they learned, and what the learning means to them. Capturing the learner voice respects them as partners in the learning process beyond test scores and grades. The affective domains of development, social systems, emotions, and familial issues all impact learning and can be used as lenses through which an educator can assess learning.

Documentation alone can be effective but becomes powerful when supported by a connection to student learning outcomes and standards of learning. Early learning guidelines, grade level expectations, and Common Core State Standards can easily be aligned with and supported by documentation. As mentioned earlier, documentation makes learning visible; it provides a visual display

of learner prowess and teacher effectiveness in a contextually supportive format. It is critical that teachers show the connection to standards and learning outcomes to validate the abilities of all children to learn as well as the teachers' ability to teach.

Teacher reflection provides the final analysis of learning. This process connects the dots for whom ever the audience may be. This is the reason for being selective in the beginning and defining the purpose for the documentation with careful thought. Families will seek different information than a college or administrator. The final teacher reflection should include elements of self-analysis on teaching strategies in addition to learner achievement as individuals and as part of a classroom community.

Impact of Documentation

The overall point of documentation is that although educators can tell passionate stories of learning that can make a person weep with pride and excitement, many times they remain only good stories and are not categorized and quantified as meaningful pieces of data that can be used as supporting evidence for learning. The formative storytelling found in this type of documentation can serve as strong evidence of teacher effectiveness. Fancy and formal or quick notes and photos have impact for teaching and learning. Walking into any school one can see examples of student work in the hallways and on the classroom walls. Samples alone do not say anything about the learning that occurred in the process. It is the responsibility of educators to use documentation as a qualitative measure, to support and explain the quantitative, so that each child is respected for his or her own path of learning.

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See also Academics and Academic Assessment in Early Education; Accountability in Early Care and Education; Authentic Assessment; Child-Initiated Learning; Reflective Practice; Reggio Emilia Approach

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DUAL LANGUAGE LEARNERS

All young children learn about the meaning and structure of language in the first four years, and children can learn multiple languages in these early years. In early childhood education, dual language learners (DLLs) are young children who learn to speak more than one language before the age of 5, for example, learning to speak both English and Spanish. This entry describes who DLLs are, the advantages and challenges faced by DLLs, the process of early language development, and known supports for DLLs' development.

Characteristics of Dual Language Learners

In the United States, more than 15% of children grow up in homes where a language other than English is spoken. The majority of DLLs in the United States live in Spanish-speaking homes in the West and South, but DLLs can be found in every state, particularly near large cities. Compared with children who only learn English, DLLs are more likely to live in two-parent homes and have more siblings. They are less likely to live with a mother who reports symptoms of depression. However, they are also more likely to have risk factors that may threaten development. They often live in homes with fewer economic advantages: low income, parents with only a high school education or less, and one or more parents who are immigrants with limited social supports. Their families may be isolated because of cultural and linguistic differences.

Advantages of Bilingualism

Learning two languages early in life offers cognitive and social advantages to children. Children who learn two or more languages are able to be more flexible in their thinking. Usually, they can consider and weigh different options more easily than monolingual children learning only one language. Bilingual research with older children and adults indicates that they have stronger memory functions, greater ability to selectively attend to stimuli, and greater metalinguistic awareness—that is, the ability to think about how words convey meaning. Ágnes Melinda Kovács and Jacques Mehler found that children growing up bilingual showed cognitive advantages as early as 7 months old, with evidence that DLLs could exhibit a learned visual response when a reward changed more easily than monolingual infants. Knowledge of multiple languages allows children to interact with people from different cultural backgrounds and can aid greater understanding of the world and more economic opportunities later in life. Some research also suggests that being fluent in more than one language may help to protect against dementia in old age.

Challenges for Dual Language Learners

In the first five years of life, DLLs typically develop vocabulary in a single language at a slower rate than their monolingual peers. However, when you combine the words that they know in two languages, the number of words that they know is higher than that of their monolingual peers. This holds true even when you look at low-income samples of children, such as children served in Head Start.

DLLs who have socioeconomic risk factors face challenges and show delays in development that are similar to English monolingual children who experience socioeconomic risks. Delays are evident not just in language development but also in cognitive and mathematics development. Parents with more limited education are less likely to understand child development or to offer the experiences and interactions that will support children's learning.

Language is integral to learning about the world and developing skills needed for success in school. Although some school readiness skills can develop independent of any language (e.g., fine motor skills that help a child to cut and copy figures or letters), most readiness skills depend on language. Children learn concepts and gain knowledge from interactions with others about their experiences and the world beyond their immediate experiences. When children are in environments with adults who do not speak the same language as they do, they often have fewer opportunities to interact with adults and attach meaning to their experiences.

In the United States, acquisition of English is important for later success in schools. Most or all classroom instruction is in English. Fourth graders who are still receiving English as a second language (ESL) services because of their limited knowledge of English are much less likely to demonstrate even the basic level of proficiency in reading and math compared with their English proficient peers. Less than one third of these English language learners (ELLs) attain a basic reading level, and they are much more likely to drop out of school before finishing.

Language Development of Dual Language Learners

Most language development occurs in the first four years of life when the majority of brain development occurs. Children develop neural pathways based on the experiences that they have; therefore, it is much easier for very young children to learn languages than it will be later in life. In the first six to twelve months of life, children learn to perceive the sounds of languages and to produce sounds and communicate with the significant adults in their lives. After the first year, it becomes more difficult to perceive sounds that differ from their first language. Infants learning two or more languages at the same time, or simultaneous language learners, become fluent speakers if they continue to have interaction with others in those languages. Some DLLs are sequential language learners, learning a second language after they have already begun to learn the first language.

The window of opportunity for learning language remains open throughout the early years of life. Overall, the younger a child begins to learn a language, the greater the language proficiency the child can attain. The key to all language learning is interaction with competent speakers of the language. Just listening to the language is not sufficient for learning. Two types of experiences offer children the best opportunity to become fluent in language: (1) hearing a language spoken to them by a native language speaker in the first year of life, and (2) interaction in the language with a competent speaker in the first four years of life. The quantity and quality of the language exposure determine how well a child learns language, whether it is the first language or a second or third.

Currently available research suggests that children develop knowledge of multiple languages in the same way that children learn a first language, although a little more slowly. They learn vocabulary, say single words and then combine words, learn the endings and prefixes that are meaningful in a language (such as how to make words plural), and learn about the structure of phrases and sentences. The order in which they learn the structure and rules of the language is similar to the order in

which children learning only a single language learn those rules.

When young children are sequential learners and begin learning the second language after about 3 or 4 years of age, they go through a series of four stages in learning the second language. In the first stage, a child attempts to communicate using his or her first language. When that is unsuccessful, many scholars contend that most children enter a second stage referred to as a silent stage. The child spends time observing and listening to others communicate. In the third stage, the child begins trying out some words and common phrases and formulaic sentences, such as “I want” and “It is.” In the fourth stage, the child combines words and phrases using the new language to communicate meaning across a range of ideas.

A 2014 review of the research by Theresa Roberts casts some doubt on the existence of the silent stage. The studies used to define the stages were based on small samples that were not representative of the diversity found among DLLs. In addition, the period of observation and silence was usually less than 3 months. As with all young children, teachers need to continue to interact with DLLs as they learn language even if the child is more reticent to speak.

Support for Dual Language Learners

Across multiple studies using varied research approaches (including experimental and descriptive research), DLLs benefit from early childhood education in both home-based and center-based approaches as much as or more than their peers. The age of entry may make a difference. Some research indicates that children younger than 4 years of age benefit more than children older than 4 years.

The quality of the early childhood education program matters. Low-quality programs do not support children’s development. Programs need to have moderate to high quality in order for children to benefit. Above the minimum quality threshold, children in programs with higher quality teaching interactions make greater gains. This effect has been noted in classrooms with children who speak

only English and in classrooms composed largely of children who are DLLs.

Development of language and literacy is a large focus in early childhood classrooms, and practices that support the development of vocabulary in a first language also support the development in additional languages. These practices include frequent opportunities to converse; introducing new words in context and repeating them often; using nonverbal language such as pointing to pictures or objects, facial expressions, and gesturing; reading illustrated books frequently; and talking about experiences as they are happening as well as using language to help children to recall recent events and anticipate what will happen in the near future. Predictable routines can help children feel secure and enable them to attend to learning, particularly supporting them in using language to discuss what has and will happen during their daily activities. When children are learning a second language, they may need more visual cues, such as pictures and objects to help them to attach meaning to words.

The trajectory of a child’s development of a language is related to the quantity and quality of the child’s experiences with language. To maintain two languages, children need continued experience in both languages. When children are learning a second language such as English, continued development of the first language helps to support the child’s knowledge of the world and cognitive development, particularly if the first language is used to help children to learn and reason about the world.

Fostering a rich language environment at home is important. Parents are fluent in the child’s first language. They can help the child to learn to use the language in more advanced and complex ways as they have extended conversations about experiences and books that they read.

Children need to continue to learn words for new ideas and concepts. The initial words in a second language may be words for things in the everyday world, such as food, clothing, everyday tools, and activities. Children need the opportunity to learn words beyond everyday events so that they do not fall behind other children in language and cognitive development. Caregivers, both teachers

and parents, support children by sharing books with them, offering new experiences and having conversations about those experiences, and extending what children say.

Evidence-Based Approaches to Support Dual Language Learning

More research is available about how to support ELLs in K–12. Less is known about how to best meet the needs of DLLs from birth to age 5. Research studies about DLLs often have only small samples and have many limitations, such as not representing the diversity found among DLLs and not using research designs to determine that a particular approach or strategy provides stronger support for DLLs than another approach or than everyday practice. Most studies have been descriptive, exploring relationships between instructional approaches or practices and the development of DLLs. Evidence suggests the importance of several practices, however.

Bilingual Approaches

The area with the strongest evidence is the use of bilingual approaches in instruction, although currently available studies examine this mainly with Spanish-speaking DLLs. Multiple studies using experimental designs provide evidence that including at least some instruction in Spanish is beneficial for children: DLLs make similar or greater gains in English assessment of skills and make greater gains in skills in Spanish. Some research indicates that phonological skills (needed for reading and writing) and vocabulary skills transfer from one language to another. Use of the DLL's primary or first language for instruction is associated with higher levels of academic, social, and cognitive development.

Across studies of the use of the primary language, DLLs receive instruction in their primary language for different periods of time and in different sequences and in different ways. Some programs begin with instruction in the child's primary language and transition to English, whereas other programs alternate between instruction in English

and instruction in Spanish, sometimes across days or weeks and sometimes within a day. For example, in one program a story might be read in Spanish in the morning and in English in the afternoon. In another program, instruction might be in Spanish for a week and then change to English. The amount of time devoted to instruction in English versus instruction in the primary language is not well specified across studies. Although less conclusive, currently available research suggests that bilingual programs with longer periods of instruction in the primary language are associated with more positive long-term academic achievement for DLLs.

When DLLs receive instruction in English only, they tend to lose skills or, at best, stop making progress in their primary language. In homes with parents who are not fluent in English, the DLL's loss of the home language can lead to potentially serious negative consequences by threatening the development of protective factors such as the relationship with the parents, communication with extended family, and connection to family culture and social support systems.

Curricula and Instructional Practices

Studies involving DLLs have examined a little more than a dozen curricula, but evidence supporting the benefits of any single curriculum over another is limited. Many of these curricula target language and literacy. The level of evidence varies from study to study.

The curricula with stronger evidence of positive findings include some common features that have also been investigated with monolingual English-speaking children and proven beneficial. The features of curricula and instructional practices that benefit children's development of language and literacy in particular include a well-specified instructional approach with activities tied to learning objectives; explicit and intentional vocabulary instruction; explicit and intentional instruction in letter-naming, phonics, and comprehension; and reading and discussing books with children.

Explicit instruction in mathematics has received less attention. Some scholars encourage the use of math word problems based on the child's

experiences; providing additional time for problem solving, cognates, and storytelling to help young DLLs solve math problems; and using the primary language to support mathematics development.

Some additional instructional practices have been investigated in isolation. The use of instructional and visual supports and planned peer interactions can support the language development of DLLs.

Instructional and visual supports are common-sense recommendations and follow the types of supports provided to all toddlers, whether they are learning their first language or two languages. Strategies supporting language include providing context with gestures or pictures, pointing, holding up objects, emphasizing key words for meaning, and allowing the child time to process what was said before expecting a response. Without some context for developing language, any learner would have a difficult time.

Positive Peer Interactions

Several studies examine the roles of other children in supporting dual language learning. Available research indicates that providing structured and well-planned paired and small group opportunities for DLLs to interact and practice language with peers who have more developed English abilities supports the English language development and social inclusion of DLLs. Monolingual English-speaking children may be taught strategies for engaging and interacting with DLLs who have limited English. Well-planned peer interactions also support development in other areas as children easily model and imitate one another. Teachers may also provide opportunities for DLLs to focus on literacy content in homogeneous, small group settings to support literacy acquisition.

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See also Bilingual Families; Cultural and Linguistic Sensitivity; Dual Language Learners, Strategies for; Language Development; Language Diversity; Literacy

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DUAL LANGUAGE LEARNERS, STRATEGIES FOR

Every young child is in the process of learning a language and learning how language works. This is a mighty task for those young brains as they

make sense of listening and talking, then reading and writing. Some children are learning more than one language at home, at school, or in their community. Early educators need to know how growing up with multiple languages can affect teaching and learning. Early educators must work with each child's individual needs and abilities in both the broad and local cultural context.

Children who enter school speaking a language other than English are often identified as English language learners (ELLs). Early childhood educators debate the use of that term because they realize that all very young children in the United States are still working on learning English—even if that's the only language in their environment. The Office of Head Start originated a different term to describe young children who are still in the process of learning their home language while also learning English: *dual language learners* (DLLs). This term is used most frequently across the field of early childhood education. It is often used interchangeably with ELLs, but it is preferred for young children, especially preschoolers, as a way to recognize that both of their languages need to be supported, honored, and nurtured as they learn.

Young children who come from homes where languages other than English are spoken are the fastest growing segment of the U.S. population. According to the Migration Policy Institute, based on U.S. Census data from 2010 to 2012, these children make up close to 25% of the population of children younger than age 9. Spanish is the most common non-English language, spoken by nearly three fourths of DLLs in early childhood education. However, there are more than 150 other languages spoken in the homes of students throughout the United States.

Even more important to remember is that most teachers of children from birth to age 8 will work with children who come from different language backgrounds. Early childhood teachers are the first to welcome young children into their educational career. They are responsible for the care and teaching of children who may have developmental issues or language issues that have not yet been identified, so every teacher in the early years should be prepared to meet the needs of diverse children.

Some children are learning two or more languages *simultaneously*, as when they have a mother who speaks one language and a father who speaks another. Others are learning two languages *sequentially*—starting with one language and then, when they move to a new country or start a new school, they learn a new language. In either case, children who receive adequate support of both languages will become bilingual. Many early childhood education programs include some activities that expose students to some words and phrases in a new language. Occasional language classes can be an effective way to broaden young children's understanding of linguistic and cultural diversity, but they will not be sufficient to result in true bilingualism. Although there are many definitions of the term *bilingual*, most agree that it refers to a person of any age who can understand and speak fluently in two languages. The two languages do not have to be used equally for the person to be considered bilingual.

First and Second Language Development

Teachers who have a strong understanding of language development are better prepared to teach young children successfully, to support effective early literacy learning, and to ensure desired learning outcomes for diverse learners. Acquisition of a second language occurs on a similar path as acquisition of a first language, but there are some differences to note. Many writers use abbreviations: L1 for first language and L2 for second language. When learning L1, children progress through predictable stages that have predictable time frames. When learning L2, children may start at any point of their development, and their knowledge, developmental level, and language experience will influence how quickly they progress through the phases of second language development.

An important factor that underlies all of language development is the focus of the child's brain on learning sounds and words in the context of interpersonal interactions and for the purposes of communication. Passive or isolated language exposure has very limited effectiveness. So, for example, young children will learn and retain more words

during responsive play activities with adults than while watching a video or repeating words on flashcards. When children are first exposed to speech in their environment, their brain takes on the monumental task of cataloging and making sense of the many sounds they hear. Producing oral language—babbling and talking—is also a critical component of language and literacy development for all children.

First Language

The following list shows how language develops in children's first language.

- Crying/body language: birth–6 weeks
- Cooing—focus on vowel sounds: 6 weeks–6 months
- Babbling—practicing consonant sounds heard in the talk around them: 6 months
- One-word utterances: 12 months
- Two-word combinations/chunks: 18 months
- Sentences: 24 months
- Advanced use of modifiers, tenses, and complex sentences: 48 months

Second Language

The following list shows how language develops in a person's second language at any age, for varying time periods.

- Continuing use of home language
- Observing and listening—may stop speaking during this period
- Formulaic speech/chunks of combined words
- Informal fluency—also called playground language
- Academic fluency—sufficient to support academic learning in new language

A great deal of language development happens before a child says his or her first word. In both L1 and L2 development, children generally understand more than they can say as receptive language develops faster than expressive language. For this reason, it is important that teachers talk to young children as if they understand more than they show

by the words they use. Children need many opportunities to show what they know and can do through actions and play before their oral language catches up.

Research has shown that DLLs have two separate language systems when they are young. They store knowledge according to the language being used when they learned it. This is one reason why it is so important to continue supporting each child's home language in the early years. Even if they appear to speak English very well, still they will have prior knowledge stored in their brain in their home language. As adults, bilingual people have an easier time retrieving information in one language while thinking or talking in another language, but young children are less likely to be able to make that transfer, so they can learn more effectively if both of their languages are used.

DLLs often have smaller vocabularies than monolinguals in *each* of their languages, but their total vocabulary across all of their languages is likely to be the same as the vocabulary of a monolingual child. The rates at which bilingual children reach some language acquisition milestones may vary from what is observed in monolingual children, but these variations are considered differences rather than delays. There seems to be no evidence that growing up with two languages will cause any meaningful delay. As long as children are experiencing lots of language and literacy activities at home in their home language, their progress is likely to even up with monolingual children and possibly even go ahead. Some recent studies have detected certain cognitive advantages of growing up bilingual. One key point to remember is that support of learning in the home language in early childhood actually serves to improve success in English later on. This is because support of their familiar language helps children keep up the rapid pace of learning concepts while they are also struggling to learn English.

Strategies for Supporting Home Languages

With so much language diversity, it is difficult to match every child with a teacher who speaks his

or her language. When the languages don't match, teachers can find materials and strategies to support home language. Here are some suggestions:

- Invite family members or volunteers to read stories, play games, or accompany children on field trips to discuss things with children in their home languages.
- Provide opportunities for same-language peers to play and learn together.
- Obtain bilingual children's books for the classroom. It is not a good idea to read to children in both languages, switching back and from one language to the other in the same sitting. The story can be read at different times in the different languages to help the children focus on just one language during the story. Bilingual stories can be very helpful learning tools for adults because the familiar story and child-oriented vocabulary provide directly applicable language.
- Use bilingual apps, software, games, and videos to help the children make connections between L1 and L2.

Program Formats

A major challenge faced by early childhood educators, as linguistic diversity keeps growing, is finding a balance between what they read in the research, what their curriculum says, and the education regulations of their state. Whereas researchers advocate for significant support of each child's home language in school to help children gain the advantages of growing up bilingual, many states and local school districts focus entirely on the learning of English.

In most states, preschool programs are not expected to comply with regulations that govern K–12 bilingual education or English as a second language (ESL) programs. Illinois was the first state to address prekindergarten in its regulations directly. Others have begun to follow suit. Teachers must familiarize themselves with the regulations and guidelines in their state. Most states are using the WIDA English Language Development standards to guide their programs for English

learners—and many of them have adopted WIDA's Early Language Development standards in English and/or Spanish that are specifically designed to inform and support language teaching and learning for preschool DLLs.

Many language immersion preschool programs, summer camps, or after-school programs are appearing across the country as a growing number of families seek out opportunities to give their young children the gift of learning an additional language. Many private programs and public schools are also implementing dual language immersion formats in which half the children in a class speak one language and the other half speak one other language. This two-language group is taught at alternating schedules in either one language or the other so all of the children are learning each other's language. For example, they may use English on the odd number days and Spanish on the even number days. In dual language immersion, each group of children has to spend some time meeting the challenge of learning content in a new language. This type of program has been found to be quite effective in fostering bilingual development for both language groups and for supporting academic learning as well.

Preschool programs have more flexibility to try different kinds of programs and supports for English learners, but K–3 early childhood educators have to follow district policy and state regulations that determine how ELLs are to be identified, what kinds of classes can be offered, and what qualifications are required for the teachers. Here are some of the options for K–3 supports for English learners:

Bilingual Education

Bilingual education provides content learning in two languages. It can be taught in several ways. Dual language immersion teaches content in two languages to a mix of students, some of whom speak one of the languages and some who speak the other. Additive bilingual, maintenance bilingual, developmental bilingual, or language immersion programs are designed to maintain the child's home language and add a new language for learning.

Subtractive bilingual and transitional bilingual programs are designed to provide some support to both languages, gradually diminishing one language to move the students toward using English.

English as a Second Language (ESL)

ESL supports students of any language background to help them learn English. These supports may be provided as a full class, or the students may be in a general education class with added supports.

English Language Development

English language development offers some support to ELLs in programs that do not offer official ESL classes or bilingual education classes.

Although some preschool programs may adopt models similar to the ones used by grades K–3, they are not usually required to do so. Infant/toddler programs also need to adapt strategies to support diverse home languages in their programs. All programs that serve children birth through age 8 have to consider many factors when deciding on the models and strategies they will use to teach young ELLs/DLLs. These factors can be addressed in a school-wide language plan.

Creating a Language Plan

A language plan can be a formal or informal outline for how a district, a building, or a classroom will adapt to meet the needs of children who are ELLs. It will take into account what languages are spoken by the families, how many children are likely to need services, what languages are spoken by staff, and how to plan for the best match between student language needs and the resources available to meet those needs. The curriculum and the availability of language-appropriate resources must also be considered.

For a school district, the language plan contains details such as screening and assessment protocol, the number of ESL and/or bilingual education teachers to be hired, the location of the classrooms where ELLs will be served, and the resources needed. The building principal or early childhood program director should also create a language

plan to support their leadership and vision for the entire school community and to describe how they will supervise and support the work of diverse staff and engage with diverse families. A classroom teacher needs a language plan to articulate how the needs of each student will be met within his or her daily lesson plans and the parameters of the curriculum. He or she also needs to list the materials and supports needed to meet those needs. Language plans should include strategies for teacher collaboration and for working effectively with families.

Language plans cover policies and procedures, but they can also establish a position on how linguistic and cultural diversity will be treated in the school environment by all staff and families. Professional development can then be arranged to support the elements of the plan as it will become a clear, shared focus for the entire school community.

Identifying ELLs/DLLs

There are three main components to the process of identifying which students are to be considered ELLs or DLLs. Federal guidelines and many states require multiple measures to be used when making placement decisions for students.

A home language survey asks families about what languages are spoken at home with the child. Written surveys should be followed up with personal contact. Because all children younger than age 5 who come from different home languages need support for those languages, additional screening is not usually needed. As children enter kindergarten, the home language survey may be used to determine which children need additional screening to determine placement.

A screening tool or language proficiency assessment is usually recommended for students who are entering kindergarten or the elementary grades. Purchased assessments are meant to be used only in the language(s) in which they were validated. If the assessments are not available in the languages needed, translations will be used as the only alternative. The best practice is to assess a student's proficiency in all of his or her languages.

Teacher observations and parent interviews about the child's understanding and use of any and all languages are very informative in the screening process. For young children, particularly children younger than age 5, the portfolio approach is the most accurate way to assess their language progress and needs.

The screening process that is normally used to determine if a child needs further evaluation for a learning disability would have to be performed in both of the child's languages in order to be accurate. Because so few tests are available in different languages, districts may hire an interpreter or invite a family member to assist. In general, a child who has special needs will show signs of his or her disability or delay in both languages. If the child can only be assessed in one language, it is not possible to tell if the results reveal a pervasive delay or if the child just happens to be less fluent in the language of the test. ELLs who qualify for special education services are also entitled to the same English language development, ESL, or bilingual education services offered to typical students.

Preservice and In-Service Professional Development

Preparing teachers to provide highly effective early education for ELLs/DLLs starts with highly effective teacher education programs. Model college programs have innovative components such as collaborations between early childhood education, ESL, and special education departments that prepare teachers for the diverse students they will encounter. What should teachers know and be able to do?

Cultural Competence. To be responsive to each child's needs, strengths, and interests, it is important that early childhood educators be prepared to understand cultural differences and characteristics.

First and Second Language Development. This is a critical component of every teacher's work and must not be overlooked. When teachers do not

have strong background in language development, they have a hard time understanding the process of literacy development and language learning needs.

Planning the Environment: Effective environments for ELLs have culturally and linguistically appropriate displays, lots of books and materials in the languages of the classroom, and visual supports to aid communication.

Collaborating With Other Professionals: Many teachers report that they need to collaborate closely with specialists who come into their classrooms to provide supports for students who are ELLs and/or have delays or disabilities, or they are assigned to a team teaching relationship. Effective teaching collaboration requires a set of skills that should be learned as part of the teacher education program.

Teaching Strategies: In addition to the background information needed to inform teacher candidates about the field, specific guidance about evidence-based teaching practices for ELLs should also be covered in college programs. Based on the research, some key strategies include

- reading, singing to, and playing with children using their home languages;
- planning lessons and activities that share vocabulary words to give students multiple opportunities to learn and practice new words in different contexts;
- providing lots of visual supports such as pictures, props, graphic organizers, and videos;
- explaining connections between words in L1 and new words in L2;
- giving children plenty of opportunities to have conversations with adults and peers so they can practice their home language and their new language in meaningful interactions using oral expression;
- making sure that language materials and supports are meaningful and useful for learning and communicating; for example, instead of teaching a "days of the week" song that provides no real understanding, teachers can use a song

that helps children remember and understand the difference between inanimate objects and living things; and

- reducing the time spent in large group activities and focusing more on small groups and individual interactions, especially for the birth through prekindergarten groups.

All of these considerations should also be taken into account when planning professional development for practicing teachers and staff. It may be difficult to find time for workshops on each topic needed by teachers of ELLs, but professional development providers who are working with a program on any topic can be asked to include strategies for adapting their ideas for linguistically diverse groups.

Similarly, when purchasing a new curriculum, teachers and administrators need to ask how that curriculum can be used effectively with ELLs/DLLs. There are many software solutions and apps available to teach and support language development. Technology can be very helpful to enhance teaching supports for ELLs/DLLs with anything from searching for appropriate songs, to making learning prompts with digital photographs, to downloading sophisticated learning apps and software. Care must be taken to ensure that choices are developmentally appropriate and that they are not used for rote memorization or passive listening. Active engagement with language learning and opportunities to use the language in meaningful ways must be the focus.

Parent and Community Involvement

Highly effective early childhood education for ELLs/DLLs at any age depends on the program's ability to connect with each child's language and the culture that is relevant to that individual. The best resources for these purposes are the child's own family members. They have assets to contribute to what happens in school. They also have time with the child when he or she is not in school to further extend and enhance learning in the home language and in English. Engaging with parents as true partners in the child's education by giving

them home literacy skills and resources and by showing them that their help is needed at school goes a long way toward ensuring a child's success.

Community volunteers can also bring language and cultural assets to the program, so effective outreach is an important part of a highly effective program. Communication is key. Messages intended for linguistically diverse staff, students, families, and the community at large often can be improved by reducing the number of printed words. With shorter messages, newsletters, and policy documents, schools have a much better chance of connecting with readers. Skilled translators are more accurate than online translation programs. Simple sentences and lots of images help ensure important information is understood. Seeking feedback from staff, families, and volunteers can improve handouts, notices, posters, and important documents and strengthen the entire school community.

Conclusion

As the field of early childhood education grows and changes in response to the rapidly changing population of the United States, there are many factors to consider. Educators at all levels have to learn more, change their practices, and stay informed about changes in regulations, research, and recommended practice. This means that college professors, curriculum developers, authors, organizations, professional development providers, software designers, toy manufacturers, social service agencies, and libraries all have to rise to the task because they all contribute to the success of every teacher. The number of DLLs will continue to grow for the foreseeable future, and the work of highly effective early childhood educators who are prepared for this diverse population can help to ensure the success of the whole education system.

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See also Cultural and Linguistic Responsiveness; Cultural Competence; Dual Language Learners; Dual Language Learners and Critical Thinking Strategies; Dual Language Learners and the Development of Self-Regulation; Language Development; Language Diversity

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- Head Start National Center on Cultural and Linguistic Responsiveness: <http://eclkc.ohs.acf.hhs.gov/hslc/tta-system/cultural-linguistic>
- High Five Bilingüe (Spanish/English magazine for ages 2–6): <https://store.highlights.com/high-five-bilingual-magazine-for-kids>
- International Teachers of English to Speakers of Other Languages: <http://www.tesol.org>
- Language Castle LLC: <http://www.languagecastle.com>
- National Association for Bilingual Education: <http://www.nabe.org>
- National Association for the Education of Young Children: Engaging Diverse Families Project: <http://www.naeyc.org/ecp/trainings/edf>
- U.S. Department of Education, Office of English Language Acquisition: <http://www2.ed.gov/about/offices/list/oela/index.html>

DUAL LANGUAGE LEARNERS AND CRITICAL THINKING STRATEGIES

The United States has a large population of children who are learning two languages, sometimes known as dual language learners (DLLs). The use of this term indicates that English is not the only language a young child is learning; rather, it is assumed that a child is emerging bilingually. However, school districts often use the term *English language learners* (ELLs) and the federal government also uses *limited English proficient students* (LEPs) as a descriptor for children enrolled in elementary or secondary education from 3 to 21 years of age who speak a home language other than English and have yet to sufficiently master English in order to meet standards and excel. The term *emergent bilinguals* honors the complexity of children's language development and recognizes that they are developing their home language(s) and literacies in English if supported in their learning environments. Emergent bilingualism indexes an understanding of the complexity of children's language development, which is dynamic and exists on a continuum.

Websites

American Council on the Teaching of Foreign Languages: <http://www.actfl.org>

Demographics

The federal government identifies ELLs using census data and state-reported data. There are inconsistencies in state reporting, and the American Community Survey, produced by the U.S. Census Bureau, is based on estimates that present a margin of error, particularly in under-reporting young children not yet enrolled in school because census data are used for identifying students ages 5 to 17 for distribution of funds.

Census data show that about one out of five children in the United States is growing up in a household where a language other than English is spoken. In addition, the majority of ELLs are being educated in urban poor areas (De Cohen & Chu Clewell, 2007). Using free and reduced lunch numbers to ascertain socioeconomic status, Clemencia De Cohen and Beatriz Chu Clewell found that the incidence of poverty is significant, at 72% in elementary schools with concentrations of ELLs. Across the United States nearly 70% of all ELL children are enrolled in 10% of elementary schools in metropolitan areas (Cosentino de Cohen, Deterding, & Clewell, 2005). Patricia Gándara and Gary Orfield (2010) reported that ELLs attend the most impoverished schools, which related to their isolation in segregated schools. Further, Russell Rumberger and Loan Tran (2010) concluded that the factor that affects the achievement of English language learners is the degree to which they were segregated. Many sources report an exponential growth of people speaking languages other than English, from 23 million in 1980 to 60 million in 2014 (Callahan & Gándara, 2014). According to the National Center for Education Statistics, ELLs made up 9.2% total student enrollment in 2012–2013. This significant student population encompasses more than those receiving services, for, as Ofelia García points out, the ELLs are “only the tail of the elephant” of millions of bilingual and multilingual children. The potential of the DLLs in the United States can be seen as a resource in an increasingly global and multilingual world.

Critical Thinking and Dual Language Learners

Critical thinking in early childhood goes hand in hand with oral language development. That is, it is through language and communication that children develop the intellectual dispositions to explore new ideas (Genishi & Dyson 2009). Dual language children have the additive benefit of being able to understand and express their ideas in more than one language. Therefore, we work from the principle that bilingualism is a resource (Ruíz, 1984) and see orientations toward critical thinking and inquiry classrooms as aligning with ones that view bilingualism as a social, intellectual, and global asset.

Research

Contact with more than one language is commonplace in many parts of the world, and there are various societal benefits associated with speaking more than one language fluently. With that said, there is a great deal of confusion and several myths that surround the topic of bilingualism and early childhood education (García, 2009). As a result, research that supports critical thinking and DLLs places particular emphasis on tapping into a child’s linguistic and cultural knowledge. In addition, acquiring more than one language does not equate to a deficit. Rather, research points to the need for rich learning opportunities in more than one language. Such practices best support critical thinking when they occur in an inquiry-based classroom with ample opportunities to engage with peers and explore new content and materials.

Tapping into the children’s *funds of knowledge*—the accumulation of a child’s cultural, linguistic, and historic background knowledge (González, Moll, & Amanti 2005)—can uncover new ways to promote critical thinking and inquiry among child DLLs. Celia Genishi and Anne Haas Dyson describe children’s linguistic lives and social worlds as inherently complex and diverse, and they locate learning within a diverse array of language-mediated events. Additionally, a major principle of dual language learning is that language knowledge transfers: “If a child learns how to read

in one language, that child knows how to read, and that general ability will facilitate learning to read in another language” (Krashen, 1996, p. 23).

Whenever possible, home language(s) should be used in educational programs for DLLs, in bilingual programs that use it as a medium of instruction, or to ensure comprehension or to scaffold instruction in English, as in the Sheltered Instruction Observation Protocol (SIOP) model. Typically, the number of students of the same language group that are in the community, or the ability to provide appropriate teachers and curricula, determines the model of programs for DLLs from different language backgrounds. Research consistently shows that programs that provide extended instruction in a home language—such as dual language programs—outperform programs that offer short-term instruction in home languages, as in transitional bilingual education, and that bilingual proficiency and biliteracy positively relate to academic achievement in both languages (Genesee, Lindholm-Leary, Saunders, & Christian, 2006). Teachers honor and support the development of children’s home languages, even when they do not speak them, by utilizing resources such as print, books, audiotapes, and other resources such as parents and community members (Schwarzer, 2007).

Practice

Emergent bilingual children need quality educational opportunities to build on their background knowledge and to socially construct their learning through tools (Vygotsky, 1978) such as oral language (Fassler, 2003), instructional conversation in reciprocal dialogue, cooperative learning (Kagan, 1986), and diverse entry points into curricula that draw on their interests and their semiotic, linguistic, and cultural assets (Siegel, 2006). In classrooms with linguistically diverse children, teachers engage children in critical thought to promote deep disciplinary knowledge through open-ended questions, provide materials and environments that provoke expression, and nurture intellectual discovery. Young children participate in learning through projects and activities that hold them to high

expectations for their competencies by responding to their strengths and needs to enrich their experiences. Effective classroom teachers scaffold challenging subject-matter content by using concrete strategies for explanation and clarification of concepts around language and literacy practices. Critical thinking may be modeled in discussion around texts and language, where children make meaning. Additionally, metalinguistic knowledge might be leveraged to discuss language structures and patterns, so students may draw on their knowledge of multiple languages to comprehend new academic vocabulary.

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See also Cultural and Linguistic Responsiveness; Cultural Competence; Dual Language Learners; Dual Language Learners, Strategies for; Dual Language Learners and the Development of Self-Regulation; Language Development; Language Diversity

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DUAL LANGUAGE LEARNERS AND THE DEVELOPMENT OF SELF-REGULATION

In the United States, educational practices in many schools focus on high-stakes testing and accountability without regarding core skills such as self-regulation. Equating the results of standardized test scores with actual learning without considering or measuring for other critical skills in a child is misleading. Self-regulation is a skill used as a predictor of school success rather than academic content itself. Measuring self-regulation in dual language learners (DLLs) is a challenge because DLLs enter preschools with lower expressive and receptive language skills that are necessary to learn regulatory skills. Specifically, they lack the language to socially interact with adults and peers in the classroom setting; thus, they are unable to learn socially acceptable behaviors and emotions from classmates and teachers. This leads to the lack of skills required to regulate typical behaviors and emotions, which then would allow them to acquire cognitive regulation. In order to learn, a child's behavior and emotions need to be regulated first.

Concurrently, the implementation of the Common Core State Prekindergarten Foundations linked to the Common Core State Standards suggests that preschools should adhere to higher level standards for literacy/language arts, science, history, and mathematics in order to better prepare

them for later grades. Yet, research demonstrates that students who enter kindergarten without self-regulatory skills, specifically DLL students, are at greater risk for difficulties such as lower levels of academic achievement.

Self-Regulation

Self-regulation “is a deep, internal mechanism that enables children as well as adults to engage in mindful, intentional, and thoughtful behaviors” (Bodrova & Leong, 2008, p. 56). Self-regulation has also been defined as having two major factors. One is the capacity to monitor inhibitory aspects. The second factor is working memory, the ability of a child to hold, update, and manipulate verbal and nonverbal information, also referred to as cognitive regulation. Self-regulatory skills represent an important developmental factor in young children as these skills allow them control over their thoughts, feelings, and behavior.

Dual Language Learners

The steady increase in students with limited language has been of growing concern. Dual language learners are those students who are younger than age 5 and are learning two languages simultaneously. Hence, they lack full proficiency in one language, not allowing them to use one language to support the acquisition of the other language. According to the U.S. Census Bureau, there was an increase of about 152% from 1980 to 2010 of children who spoke a language other than English at home in the United States. The growth of the bilingual population poses the issue of how to properly address linguistic and self-regulatory skills in schools. Yet, despite the increase, there still remains a paucity in the body of literature that discusses the development of self-regulatory skills in DLLs.

Methods

As there appears to be a paucity in the literature of self-regulation and DLL preschool students, research was conducted to examine the connection between

self-regulation in DLL preschoolers and academics. The research was conducted in the school year of 2012–2013 with children who attended one Head Start and one universal prekindergarten (UPK) setting. The UPK setting in particular had a school–university partnership with Long Island University Post at the time of data collection. The following hypothesis was examined: It is predicted that there will be a positive relationship between self-regulation and language acquisition skills of DLLs, such that as self-regulation increases, language skills will also increase.

Participants

A sample of 70 students participated in this study from two different settings. The mean age for both settings at Time 1 was 4.5 and at Time 2 was 4.9 years old. The ethnic composition sample was 56% Hispanic/Latino, 43% African American, and 1% White. Thirty-two students were categorized as DLLs. DLL classification was based on surveys filled out by parents or guardians during enrollment and teachers’ evaluation of the students’ language level.

Setting

Data were collected from two preschool settings. The first setting was a state-funded UPK program in a low-income, ethnically diverse district. The second school was a federally funded Head Start program. The Head Start was located in the same ethnically diverse community as the UPK program.

Instrumentation

Standardized assessments were used to collect data in Time 1 and Time 2. These sets of scores were analyzed and compared to measure the relationship between self-regulation and academics.

Preschool Self-Regulation Assessment (PSRA)

The Preschool Self-Regulation Assessment (PSRA) is a battery of self-regulatory tasks. The

tasks were used to assess children's (1) impulse control and (2) cognitive control.

Emergent Literacy Measures

The Get Ready to Read (GRTR) and Expressive/Receptive One Word Picture Vocabulary English/Spanish (EOWPVT-4) instruments were used to measure emergent literacy skills.

Language Measures

To better account for language, the Pre-Idea Proficiency Test (Pre-IPT) and expressive and receptive vocabulary skills were used. The Pre-IPT measured for proficiency in print and phonological skills.

Results

Hypothesis 1 examined the relationship between self-regulation skills and language acquisition skills in DLLs. Two Pearson r correlations were used to measure the association between the academics and self-regulation variables. A Bonferroni adjustment was calculated to control for Type I error inflation; thus, significance in this hypothesis is considered at $\alpha = .025$ ($.05/2$). Finally, a one-tailed correlation was conducted.

Time 1 correlation revealed a significant positive correlation ($r = .528, p < .01$) between cognitive control and language with a moderately high association. Thus, 28% of variance in cognitive scores can explain for language proficiency. Time 2 results revealed cognitive control and language had a significant positive correlation ($r = .687, p < .01$) with stronger association (47% of variance in cognitive scores can explain for language proficiency). For Time 2, cognitive control was statistically correlated with vocabulary ($r = .589, p < .01$) with the strength of the correlation moderately stronger than Time 1. Thus, 35% of students' cognitive control can explain vocabulary skills. These findings indicate that the ability for cognitive control (a form of self-regulation) can be explained by the gains made in vocabulary skills.

Discussion

DLLs showed gains in language and cognitive control for Time 2 (oral proficiency ($r = .687, p < .01$) and vocabulary ($r = .589, p < .01$). Eighty-two percent of the variance in language could be attributed to cognitive control. The interpretation of this finding is derived from the concept that "language leads to consciousness, but then it is the conscious use of language in self-directed speech that allows children to exercise control over thoughts, actions, and emotions" (Muller, Jacques, Brocki, & Zelaso, 2009, p. 57).

Schools need to provide a strong language program that is sensitive to the needs of DLLs and their language needs. Lev Vygotsky's theories on speech and language suggest that self-regulation of thoughts and behaviors is acquired through the internalization of children's teacher or caregiver's speech. The positive correlation results showed that language is a factor in the development of cognitive self-regulation, which later impacts academic achievement. Supporting language and socialization in DLLs allows for communication leading to greater opportunities in learning. This development of language skills serves as a foundation of early reading skills, as these skills require that a child be phonologically aware of sound segments within spoken language.

Ruth Guirguis

See also Cultural and Linguistic Responsiveness; Dual Language Learners; Dual Language Learners, Strategies for; Dual Language Learners and Critical Thinking Strategies; Language Development; Language Diversity

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E

EARLY CHILDHOOD EDUCATION

Early childhood education (ECE) is the broad sector of education serving children during the early childhood years, a distinct developmental period spanning birth to age 8. ECE includes educational services provided in a wide range of settings, including child care centers, family child care homes, nursery schools, private preschools, Head Start programs, as well as public elementary schools and after-schools that offer preschool or kindergarten to third-grade programs. The primary purpose of ECE is to promote child development and early learning. This entry defines and describes ECE and its historical roots. Then it examines three key aspects of ECE: curriculum and instruction, children and families, and quality.

Overview of ECE

ECE is a complex sector of education. Whereas most ECE services for children birth to 5 are offered in private or community-based settings, most ECE services for children ages 5 to 8 take place within the public school system. The private or community-based ECE settings include family child care homes, nursery schools, preschools, Head Start and Early Head Start programs, child care centers, and after-school programs. The complexity of the ECE sector is largely due to the fact that services are delivered across such diverse

settings, with varying standards, policies, and service delivery models. Furthermore, ECE also serves multiple purposes, including supporting the healthy development and early learning of young children, and in many cases, also supporting parents' and families' ability to work by providing safe and stable care for their children. In the past, this dual purpose fueled debates about whether certain types of ECE were intended to provide child care services versus educational services. Increasingly, high-quality ECE is defined as both education and care. Research has shown that young children need safe, stable, educationally stimulating, and caring environments and relationships in order to learn and to thrive.

The ECE field is undergoing dramatic changes now, with heightened standards for professional preparation, growing research evidence about best practices, and an increased federal role in early education policy. The ECE sector has experienced rapid growth over the last decade with steadily increasing enrollments of children. Several forces have driven this growth. First, research has documented the significant potential for quality ECE to enhance school readiness and prevent the achievement gap. ECE is now widely viewed as important for ensuring that all children, particularly low-income children, enter school ready to learn. ECE is considered the foundation for children's success in school. Second, prominent economists such as Arthur Rolnick and James Heckman have publicly highlighted the return on investment of ECE. For

each dollar spent on early education, according to various studies, society gains back an estimated \$8 to \$15 in funds that would have otherwise gone to remedial education and social and economic supports later in life. Third, most parents of young children now work, and therefore there is a greater demand for ECE services.

Unlike many other wealthy countries, the United States does not offer universal access to ECE. The compulsory public education system in the U.S. begins at kindergarten and first grade, which ensures universal access for children beginning at age 5 or 6. ECE for children birth to 5 is primarily the responsibility of individual families, who must find and pay for ECE services. Limited voluntary public programs and policies provide financial support for some groups of children birth to 5, such as children with special needs, children living in poverty, those exposed to abuse or neglect, and children of low-income working parents.

Historical Influences on ECE Theory

The history of early childhood education in the United States has been strongly influenced by several Western European theorists, including John Amos Comenius, Johann Pestalozzi, Friedrich Froebel, and Maria Montessori.

In 1658, Comenius (1592–1670) authored *Orbis Pictus*, the first illustrated textbook for children. This book, along with Comenius's illustrated alphabet book, reflected his beliefs that children's learning should be engaging and driven by their own interests, and that children should be taught in their native language rather than in Latin. Comenius believed that learning should be pleasant rather than punitive; he opposed physical punishment and promoted the idea that children's learning should be active and experience-based.

Like Comenius, Pestalozzi (1746–1827) believed that the best motivator of children's learning is their interest. Pestalozzi took a developmental view of learning, arguing that children master knowledge and skills in various stages. He embraced the "whole child" perspective, emphasizing the integration of children's moral, intellectual, physical, emotional, and social development.

Froebel (1782–1852) founded a school he called a garden for children, and today he is known as "the father of the kindergarten." Froebel believed that children's development occurs in stages, and that teachers must observe children's actions in order to understand how this development occurs. According to Froebel, learning occurs only when the child is ready and cannot be made to fit an artificial timetable. His kindergarten encouraged free play, although in fact this play was semi-structured by the use of Froebel's "occupations" and "gifts"—planned experiences (lacing paper strips, making models) and concrete materials (colored balls, cubes) that engaged children in representative play and learning. Froebel's work resulted in a widespread kindergarten movement in the United States. Teachers who studied his methods implemented them in kindergartens across the country.

Montessori (1870–1952) emphasized the importance of children's environments on their learning. Her theories were rooted in her experiences working with poor children living in Rome; in demonstrating that early education for needy children is less costly than later intervention or remediation, she provided the main justification for early childhood programs like Head Start. Montessori advocated for a sensory approach to learning and designed classroom environments and materials specifically to promote children's learning. Her approach was quite individualistic; she did not believe that social interaction is integral to children's learning and was dismissive of play as a mode of learning. Montessori was an early proponent of the importance of literacy learning from a young age, and her work reflected her belief in a strong connection between learning to write and learning to read.

The Evolution of ECE Practice in the United States

The theories just described contributed to the development of various movements in the progression of American ECE, beginning with the kindergarten movement, rooted in the ideas of Froebel. In 1856, Margarethe Schurz (1832–1876), a German immigrant to the United States who had studied

with Froebel, established a kindergarten for German-speaking children in Wisconsin. Schurz influenced social reformer Elizabeth Peabody (1804–1894), who organized the first English-speaking kindergarten in the United States and wrote the first American kindergarten teacher textbook. Peabody's work in turn inspired Susan Blow (1843–1916), who founded the first public school kindergarten in St. Louis in 1873. Blow became a strong voice in promoting the establishment of kindergartens across the country. Both Peabody and Blow saw teacher training in Froebelian ideals as essential to the movement, and traveled widely to promote these principles. Blow would go on to found the International Kindergarten Union in 1892, which later became the Association for Childhood Education International.

The progressive education movement of the early 20th century had a significant impact on the field of early childhood education. John Dewey (1859–1952) was a leader in this movement, committed to reforming education to make it more democratic. Dewey saw schools as having a responsibility to produce well-rounded citizens ready to function effectively in a democratic society. He believed teachers should work together with children to assist with their learning, rather than act as disciplinarians whom children learn from passively. Likewise, he believed in using an integrated curriculum that utilizes multiple subjects simultaneously to address learning objectives, an approach that is standard in early childhood education today. The progressive education movement encouraged teachers to consider individual differences among their students.

The kindergarten movement eventually expanded to include schools for even younger children, known as nursery schools. The nursery school movement grew out of the work of Patty Smith Hill and Lucy Sprague Mitchell, and paved the way for the broadening of the early childhood education field.

Patty Smith Hill (1868–1946) started her own kindergarten, later developing a new curriculum rooted in a multidisciplinary approach that involved other professionals such as social workers,

psychologists, and physicians. Hill felt that a primary purpose of kindergarten was to build on the learning that takes place at home and to connect home and school in a meaningful way. She wrote poems and books to help children learn to read and developed play materials. Wanting to preserve high standards during a time of rapid growth in nursery schools across the country, Hill spent 30 years on the faculty of Teachers College in New York and was active in the field. In 1926 she founded the National Committee on Nursery Schools, which in the 1960s became the National Association for the Education of Young Children (NAEYC). Today, NAEYC is the largest, most prominent professional association for the ECE field.

Lucy Sprague Mitchell (1878–1967) studied under John Dewey and went on to found the Bureau of Educational Experiments in 1916, a teacher training and research organization. The Bureau was later renamed the Bank Street College of Education, and Mitchell's ideas became known as the Bank Street approach. The approach is rooted in the belief that children's firsthand experiences, such as taking field trips or working on projects, play a large part in broadening their perspective. Like Hill, Mitchell authored many children's books and established a writer's workshop for children's book authors. Her Bank Street approach became a model for the Head Start program.

The early 20th century also saw the rise of parent cooperative nursery schools, or co-ops. Under this model, parents administer the school, hire teachers, and volunteer in the classroom. The co-op movement grew through the mid-20th century, but the number of co-ops declined as more mothers entered the workforce. These same forces influenced the child care movement, which focused on the need to support working parents as well as poor families.

The child care movement was presaged by the work of the McMillan sisters, Margaret (1860–1931) and Rachel (1859–1917), who established day nurseries to serve children living in the London slums. Their program promoted healthy development through outdoor play, nutritious food, and rest. Similar nurseries were established

in the United States by the Works Progress Administration (WPA) during the Great Depression in the 1930s. These centers created jobs for those who worked there and enabled parents with small children to seek work. The WPA nurseries were among the first to serve young children from poor families; however, there was little emphasis on education and many were staffed by teachers with little formal training. During World War II, more women entered the workforce to replace men who had joined the armed services. The Lanham Act funded emergency work-site child care centers to accommodate these women and their families. However, as men returned from the war and women returned home, centers funded by the Lanham Act were closed.

In the later 20th century, the expansion of early childhood education in the United States was driven by the Civil Rights movement of the 1950s and 1960s. As part of President Lyndon Johnson's War on Poverty, the Head Start program was established. Head Start represented a joining between the middle-class nursery school and working-class child care movements. The Head Start philosophy centers on serving the whole child and promotes parent involvement. Head Start programs have served as a laboratory for important research in early childhood education and continue to influence the evolution of the field.

Curriculum and Instruction in ECE Today

A unique aspect of ECE is its emphasis on child development, in addition to education's traditional content areas such as literacy and mathematics. Early childhood education seeks to promote healthy development in all key domains, including physical, social, emotional, cognitive, and language development, as well as approaches to learning. ECE programs serving children birth to 5 have historically emphasized children's development in these domains. The academic discipline-specific content areas include literacy, mathematics, science, social studies, health, and the arts. ECE programs serving children in kindergarten through third grade have historically tended

to emphasize children's learning in these content areas. Increasingly, ECE programs integrate both developmental and content area learning.

The dominant pedagogical approach in ECE is referred to as *developmentally appropriate practice* (DAP). DAP refers to practices that promote optimal learning during the birth to age 8 period. The concept of DAP has its roots in research evidence about how young children learn, and was formally defined and developed by the NAEYC in 1986. Since that time, it has been periodically revised and expanded, most recently in 2009.

The DAP framework guides teachers to make decisions about their teaching based on three key factors: (1) knowledge of child development, (2) knowledge of individual children, and (3) knowledge of children's social and cultural contexts. Considering all three of these factors, teachers make decisions about planning and implementing developmentally and culturally appropriate educational activities and experiences with the specific children they serve.

A range of curricular and philosophical approaches are used in ECE, and many are considered consistent with DAP. These approaches include project-based learning, emergent curriculum, theme-based curriculum, and models such as Montessori, HighScope, and the Reggio Emilia model adapted from Italy. Curriculum in infant-toddler programs is often embedded into natural caregiving routines, such as feeding and diapering. There is no national curriculum for ECE programs. In some cases early educators or school districts develop their own curriculum, and in other cases ECE programs or school districts purchase a published curriculum.

Many ECE programs are designed to be inclusive of children with special needs, and they adhere to the principles of the Individuals with Disabilities Education Act (IDEA), which was first enacted in 1975 and has been reauthorized since then. Inclusive ECE programs often utilize a universal design approach, a flexible approach that takes into consideration differing needs in order to customize and modify teaching to support individual children's learning.

Caring is an important component of ECE. Nel Noddings (1929–) is an educational philosopher known for her contributions to developing the ethic of care in the educational context. The ethic of care guides teachers to make decisions based on the unique individual needs of each child. Rather than applying a one-size-fits-all approach with children, an ethic of care argues for the importance of individualized responsiveness and attentiveness in the context of caring, reciprocal relationships that promote growth. These caring relationships also serve to promote the development of prosocial behavior among children. Current research highlights the central importance of positive and reciprocal teacher–child relationships for achieving educational outcomes.

Play-based learning is another important concept and practice in ECE curriculum and instruction. Developmental science and theory document how children learn through play. This theory and research provide the rationale for play as a method of learning. Through play, young children actively construct knowledge in meaningful ways, through experimentation and social interactions. Jean Piaget's (1896–1980) constructivist learning theories have had a major influence on ECE. His theory explained how children construct knowledge through meaningful experiences. Lev Vygotsky's (1896–1934) sociocultural theory offered another influential perspective. Vygotsky argued that children learn through social interaction and in collaboration with others, highlighting the important role of social play in learning. Research continues to document how young children's play contributes to specific developmental gains across multiple domains such as language, cognitive, and social development.

Early learning standards also guide curriculum and instruction in ECE. The majority of U.S. states have early learning standards that establish a framework for what children at each age or grade level are expected to know and be able to do. Most states have early learning standards starting at the preschool level (and continuing on through 12th grade), and many states have also developed early learning standards that include

the infant and toddler years. Most states have adopted the Common Core State Standards for math and English language arts, which include kindergarten through third-grade standards applicable for these grades within ECE. These learning standards explicate what children should know and be able to do at each level, but they do not mandate a specific curriculum. A wide range of curriculum and assessment approaches can be used to teach within the early learning standards frameworks.

Children and Families

Family support, engagement, and involvement are important components of ECE for three primary reasons. First, ECE programs have an ethical responsibility to engage, support, and partner with families to provide high-quality care and education. Infants and young children are part of, not separate from, their families. To understand and respond to children, ECE teachers must know each family and learn about their routines, culture, and hopes and dreams for their child. Young children and their families are the most racially, ethnically, and linguistically diverse segment of the U.S. population today. Families also vary in their structure or composition, from two-parent families with a mother and father to same-sex families with two mothers or two fathers, and from single-parent families to families headed by a grandparent or a foster parent. Cultural competence, knowledge of families' goals, and an appreciation for family diversity are all essential in ECE.

Second, ECE's clients or "customers" include not only children but also their families. Because families are responsible for finding and paying for most ECE services for children birth to 5, families are customers and ECE programs must respond to the needs and concerns of their customers. This includes the responsibility to support parents' need for safe, stable care during the hours in which parents work or attend school.

Third, parents can be thought of as a child's first teachers. ECE programs can help support and enhance parents' knowledge and skills about child

development and early learning. Strong evidence has shown that parent involvement in early education is associated with improved developmental and educational outcomes for children.

One central challenge families face is gaining access to affordable high-quality ECE. Prior to kindergarten, families are typically responsible for finding and paying for ECE. A national network of child care resource and referral agencies provide parents with assistance searching for quality and affordable ECE services. Yet the cost of ECE is unaffordable for many families, and there are not sufficient public supports available for families to cover these costs. In addition, there is a shortage of high-quality ECE for infants and toddlers. Therefore, some families are not able to access ECE programs for their children until they reach the age of 5 or 6 and enter public school.

To address these gaps in access, some states or cities now offer universal preschool for 4-year-olds. Some federal programs provide support to enable families of younger children to access ECE programs. For example, the federal Head Start and Early Head Start programs provide comprehensive educational and family services for low-income families with young children birth to 5, including children with special needs. The Child Care and Development Fund is another federal program that provides financial assistance in the form of vouchers to help subsidize the cost of child care for low-income parents so they can work or attend school. Neither of these programs is funded at a level sufficient to serve all eligible families, so only a portion of eligible families receive these services.

Quality in ECE

The quality of the ECE workforce and ECE programs is essential for healthy child development, positive early learning outcomes, and young children's long-term success in school and in life. Quality is at the heart of effective ECE. Strengthening the workforce and improving program quality have been, and continue to be, a major focus of professional associations, advocacy groups, and government.

Workforce Quality

Early educators serving children birth to 5 are the most racially, ethnically, and linguistically diverse sector of the education workforce, birth to postsecondary. Supporting a diverse workforce of educators to obtain the appropriate credentials and competencies, and retaining and advancing them in the education workforce, is essential for quality ECE.

Over the last 20 years, there has been a push to professionalize early education. As a field, early childhood educators have less formal education and are paid less than other educators. Even when early educators hold comparable educational levels and credentials, they are paid less on average than educators of older children. There are also inequities in pay between public schools and private child care and preschool programs and Head Start. Early educators working in public schools are paid more on average than early educators working in these other settings. Many are working to professionalize the field of ECE.

A professionalized field is one in which the following four primary elements are present: (1) a professional association, (2) a code of professional ethics, (3) a systematic base of knowledge, and (4) a system of formal qualifications that includes a career ladder. The first three elements are all established in the ECE field, and the fourth has been the focus of recent efforts to advance the field and ECE quality.

NAEYC is the largest and most prominent professional association for the ECE field. Other important national professional associations include ZERO TO THREE, the National Association for Family Child Care, and the National AfterSchool Association. NAEYC produced the first code of ethics in 1989, and it has been revised regularly, with its most recent update completed in 2011. The Code of Ethics specifies the core ideals and principles that guide ethical practice and professional responsibilities to children, families, colleagues, the community, and profession.

The specialized knowledge base about ECE teaching and learning has grown immensely in recent years. A long history of theory and research on early learning, along with new research evidence

about brain development and the science of early learning, inform a solid knowledge base for the field. The final element of a profession, the selection and training and certification of its professionals, has been developed in some respects but this is also an area for future growth and development of the ECE profession.

Professional certification and credentialing pathways specify how a professional enters the field and advances professionally. In ECE, there are different possible entry points. The first formal credential in the field is the Child Development Associate credential administered through the Council for Professional Recognition. Teacher preparation usually takes place at a higher education institution, particularly for educators who teach in public school ECE. Many public and private higher education institutions offer associate's, bachelor's, and master's degrees in ECE, and some offer doctoral degrees in ECE or a related field of study. Public schools and Head Start programs typically require teachers to have a college degree, whereas some community-based child care and preschool settings do not. However, in recent years, there has been a growing push for teachers to earn a college degree, and the NAEYC national standards for accreditation of high-quality ECE programs call for teachers to have a bachelor's degree. NAEYC has a well-established set of Standards for Early Childhood Professional Preparation Programs that specifies what early educators should know in each of the following areas of professional competencies:

1. Promoting child development and learning
2. Building family and community relationships
3. Observing, documenting, and assessing to support young children and families
4. Using developmentally appropriate approaches with children and families
5. Using content knowledge to build meaningful curriculum
6. Becoming a professional

ECE professional development also includes training, coaching, and technical assistance, provided by

a wide array of local and state entities. In the past, professional development typically focused on workshops and group trainings to introduce new knowledge and skills. Based on evidence about how teachers successfully improve their practice, the trend in professional development has now shifted to include coaching. Coaching is an interactive process in which a coach works directly with a teacher to refine, improve, or implement a specific set of practices to achieve a desired outcome.

Professionalization is important to raising the status of the profession and affirming the unique developmental, relational, and pedagogical expertise required for high-quality ECE. However, there have been debates in the field about how to further professionalize in order to most effectively preserve and promote workforce diversity, higher educational standards and professional competencies, and to ensure equitable compensation. For example, one hotly debated question is whether ECE teachers must have a bachelor's degree in order to be considered highly qualified. Another question has been how to create more equitable compensation systems, so that credentialed teachers earn comparable salaries whether they teach preschool in a Head Start program, a public preschool classroom, or a community-based child care center.

ECE Program Quality

Both highly qualified teachers and high-quality ECE programs are needed to support ECE's purpose of promoting healthy child development and early learning. High-quality ECE programs provide safe, nurturing, and educationally engaging environments and relationships for young children. High-quality programs have the following characteristics: a high ratio of teachers to children, small group or class sizes, developmentally appropriate curriculum and assessment, consistent daily routines, a safe and healthy environment, engagement with families and the community, and strong leadership and management practices. The quality of an ECE program is usually assessed through observational methods and can include structural quality elements such as the number of children's books available in classrooms as well as process

quality elements such as whether teachers regularly engage children in back-and-forth conversations. Prominent measures of ECE quality include the Early Childhood Environmental Rating Scale (ECERS) and the Classroom Assessment Scoring System (CLASS). NAEYC administers a system for national accreditation of high-quality ECE programs, based on a set of program quality standards. States also regulate child care programs through licensing systems. Public schools are overseen by local and state regulations and accountability systems.

Studies have found that the quality of many ECE programs is only mediocre, and that infant and toddler programs often do not meet even basic standards for quality. Quality improvement efforts are therefore critically important in order to ensure that all young children have access to programs that can effectively support healthy development and early learning. One approach to improving quality is teacher professional development, described earlier. Another approach is technical assistance provided to early childhood programs to assess areas of strength and areas for improvement, and to support the development and implementation of an improvement plan.

NAEYC program accreditation can be used to make improvements and increase quality. The Boston Public Schools, for example, used the NAEYC accreditation process to improve early education quality, which then resulted in improved academic outcomes among young children. Another approach used by an increasing number of states is a quality rating and improvement system (QRIS). These state systems establish a set of quality standards, a process for assessing ECE program performance on these standards, and they typically provide various kinds of incentives for participation in the QRIS. Incentives include sharing results with consumers and the public, technical assistance services for ECE programs, and/or financial awards or benefits to programs meeting certain thresholds of quality.

The future of ECE offers many opportunities to further develop the profession, and to test new methods for improving the quality of ECE programs. The

last decade has seen heightened national attention to the ECE quality and universal access to ECE for preschoolers. Given the growing linguistic and cultural diversity in the United States, the ECE field is examining ways to strengthen the cultural and linguistic competence of the workforce and to effectively support the healthy growth and development of all young children.

Anne Douglass

See also Child Development and Early Childhood Education; Curriculum and Early Childhood Education; Developmentally Appropriate Practice; National Association for the Education of Young Children; Play and Early Childhood Education; Policy and Early Childhood Education; Quality; Quality Rating and Improvement Systems

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EARLY CHILDHOOD EDUCATION SYSTEMS

Generally, the term *system* is used to describe a set of processes and structures that work together over time to produce a product or set of outcomes. These outcomes could be a physical product, a type of human behavior, or even a biological

process. Systems are pervasive, both occurring in nature and created by humans. On the surface, the concept of a system is well understood; individuals have vast experience interacting with systems—ecosystems, transportation systems, political systems, and economic systems, to name a few. Less understood, however, is the fact that systems are often conceptually and practically complex, and that this complexity affects how the parts of a system function as a whole.

In the field of early childhood education (ECE), there is a complex history of programs and services for young children and families out of which ECE systems have evolved. This entry provides an overview of early childhood systems in the United States, with a particular focus on state-level ECE systems. Beginning with a retrospective look at how ECE systems evolved in the United States, the entry articulates the different types and essential elements of ECE systems that existed in the United States as of 2015. The entry concludes with a prospective view on the future of systems work in early childhood.

Defining an ECE System

If a system can be defined as a set of structures and processes through which a particular set of outcomes can be achieved, an ECE system can be defined as a set of structures and processes through which programs and services for young children and their families are supported. Although ECE systems exist at the federal and local levels, the focus of this discussion is state-level ECE systems, because in most states the entity responsible for creating and/or implementing the policies that govern ECE programs and systems exists at the state level.

Historical Perspective Out of Which Systems Work Evolved

Before one can fully understand ECE systems, it is important to understand the historical, political, and socioeconomic contexts out of which ECE systems have emerged. Historically, the role of providing education and care of young children in

the United States has been relegated to the family. It is not until a child enters primary school that the state provides for universal access to public education services.

The notable exceptions to this paradigm are twofold. First, in times of national crisis, such as World War II and the Great Depression, the government has provided for large-scale access to child care and early education services. The Lanham Act of 1940, which allocated funds to communities affected by World War II, was by 1943 being used to meet the surge in demand for child care as women began working in large numbers in the defense industry. Once this and other crises abated, federal supports were scaled back. Second, the government has intervened in cases where the family needs assistance to meet the needs of their young children. In contrast to the broad governmental intervention outlined in the first example, this type of intervention is targeted to a specific population. Head Start is the archetypal example of this; services are rendered to children and families who need assistance to offset the effects of poverty, ostensibly giving them a “head start” in life.

Operating within the ethos of targeted support to families in need, investments in programs and services for young children and their families living in the United States steadily increased during the late 20th and early 21st centuries. Responding to changes in workforce composition and shifts in economic demand, the federal government, for example, has helped low-income families pay for the high cost of child care through subsidies made available through the Administration for Children and Families’ Child Care and Development Block Grant to states. Simultaneously, many states have been steadily investing in ECE (e.g., publicly funded prekindergarten, home visiting), leveraging the emerging consensus among scholars that high-quality early learning experiences can make a positive difference for young children in school and in later life.

At the same time, as public demand for ECE grows, private foundations and local communities are creating new ECE programs or expanding

existing ones. The result of the influx of myriad initiatives and resources into the field over the past three decades is a patchwork of programs and services either run within the private sector or publicly funded at the local, regional, state, or national level.

Moving From Services to Systems

Despite the inflow of resources into the ECE field, the proliferation of multiple new programs on their own has not necessarily resulted in increased access to programs and services or improved program quality. Rather, as noted ECE systems scholar Sharon Lynn Kagan and others suggest, this rise of programs has resulted in a “non-system” of ECE programs and services. As mentioned previously, services (e.g., publicly funded prekindergarten, Head Start) are often targeted to a specific subset of individuals in need, to the exclusion of many children and families who could otherwise benefit from them. Furthermore, owing to a lack of codified standards to which programs are asked to adhere, low baseline qualifications for the ECE teaching workforce, and a lack of sustained financial and programmatic supports to ECE programs, early learning programs are often low in quality. Missing from these programs and services has been an infrastructure to support the efficient and effective functioning of such programs and services in a systematic and sustainable way. It is from this absence that the press for the development of an ECE system emerged.

Types of ECE Systems and System Elements

Central to understanding what constitutes an ECE system is the fact that among scholars and policy makers in the field, there is no one conceptualization of what an ECE system looks like. In part, this is because the field itself varies greatly. ECE programs themselves are incredibly diverse, services provided to young children and their families vary by state (and sometimes locality), and there is no one standard to which the ECE teaching workforce adheres for professional

preparation. Adding to this conceptual diversity is the fact that the approach to policy making for young children in the United States has been highly episodic, and targeted at different populations and age groups. The result, then, is that ECE systems look different depending on the population they purport to serve.

In their landmark 2012 work on ECE systems, titled *Early Childhood Systems: Transforming Early Learning*, Kagan and Kauerz identify three types of ECE systems: (1) an *early care and education system*, which focuses on the provision of education and care services for children birth through age 5; (2) an *early learning system*, which, in aligning itself with the developmental period defined as early childhood, expands its purview to include children birth through Grade 3; and (3) an *early childhood system*, which focuses on the care and education of children birth through age 8, but also encompasses comprehensive services for young children birth through Grade 3, such as mental and physical health services. These three types of systems offer a framework for bringing coherence to the myriad programs and services that exist within each state. That is to say, these systems attempt to tie together coherently the numerous programs and services for young children, their families, and the ECE workforce that exist in that state. This “tying together” is accomplished by creating specific infrastructural elements from which *all* programs can benefit.

Regardless of which type of system a particular state adopts and what subset of the population it intends to serve, the ideal outcomes achieved via an ECE system are, as Kagan and Gomez note in the 2015 work *Early Childhood Governance: Choices and Consequences*, improved ECE program quality, more equitable access to early childhood programs, and services to children and families that are delivered in a sustainable and systematic way. In order to function and achieve these system-level outcomes, an ECE system must contain seven specific elements, as defined by Kagan and Kauerz in their aforementioned text on ECE systems and advanced again in *Early Childhood Governance: Choices and Consequences*. They are as follows: (1) financing for

ECE programs and services; (2) professional development and workforce supports for ECE professionals; (3) accountability measures to ensure programs meet quality and fiscal benchmarks; (4) outreach to and engagement with families and communities; (5) standards including early learning and development standards, program quality standards, and standards for professional preparation; (6) regulations articulating the minimum requirements for health and safety; and (7) governance structures in place to manage each of the other six elements and the programs and services that these system elements are designed to support.

ECE Systems: Current and Prospective Work

As of mid-2015, no state in the United States had a fully functioning ECE system, though many states do have several of the system elements developed and implemented. All states, for example, do have health and safety regulations for early childhood programs. Most states have early learning and development standards for children ages 3 through 5, and some baseline qualifications for the ECE workforce. The degree to which a state may have developed the other system elements varies greatly.

Recognizing the utility of ECE systems, scholars and policy makers alike have begun to think about how they can support states’ efforts to build ECE systems. The federal government, for instance, has induced states to build ECE systems via the Race to the Top—Early Learning Challenge Grants, which give states significant financial and technical assistance to focus on developing specific system elements. Other organizations, like the BUILD Initiative and the National Center for Children and Families, have supported state system-building work by conducting systems-relevant research, and by creating peer-to-peer networks so that states can share with each other their successes, challenges, and ideas regarding the creation of the seven system elements. Indeed, there is enthusiasm in the field for the benefits that could be incurred as a result of states having fully functioning ECE systems.

Conclusions

Acknowledging the importance of early learning experiences in the first 8 years of life as critical in shaping a child's success in work and life means that the field of ECE is obligated to strive for equitably distributed ECE programs and services that are of the highest quality. The creation of comprehensive, integrated, and coordinated ECE systems is imperative if the field is to meet this obligation. While the field still has a long way to go in developing ECE systems—both conceptually and practically—the notion of focusing on the system (i.e., the infrastructure), alongside investment in ECE programs, holds great potential for achieving the desired ends of quality, equity, and sustainability.

Rebecca E. Gomez

See also Accountability in Early Care and Education; Child Care Policy and Practice; History of Early Childhood Education Policy; Quality; State Policy Making

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EARLY CHILDHOOD INCLUSION

Early childhood inclusion is the principle that supports the rights of young children with disabilities to be cared for and educated alongside their typically developing peers and to participate in a broad range of activities as full citizens of society. There is widespread policy, research, and societal support for the principle of inclusion. This entry provides information about the legal, research, and values base for early childhood inclusion, an agreed-upon definition and defining features of high-quality early childhood inclusion, and steps to take to ensure that high-quality inclusion is available for all young children with disabilities.

Legal Base

Although inclusion is not specifically defined in law, the principle is supported through legislative mandates related to equal opportunity and basic rights to be educated. Inclusion began in 1954 with the *Brown v. Board of Education* Supreme Court decision and was extended by legislation over the decades (the Americans with Disabilities Act, the Individuals with Disabilities Education Act [IDEA], and Section 504 of the Rehabilitation Act) requiring schools and agencies to provide equal educational opportunities for children with disabilities.

IDEA specifically requires schools to educate children with disabilities ages 3 to 21 in the least restrictive environment and for those ages 0 to 3 promotes providing early intervention services in natural environments. These legislative requirements promote inclusion by addressing the rights of young children with disabilities to receive educational and developmental services and to participate in typical academic and non-academic settings and activities. For example, child care programs cannot discriminate and deny admittance to young

children with disabilities and must make reasonable accommodations for them so they can succeed in that environment, and disability services must make every effort to serve young children with disabilities in community-based and home settings rather than special schools, clinics, or hospitals.

Research Base

Inclusion has been studied for over 30 years. Certain conclusions about its implementation can be made based on that research. These include the following:

- Inclusion has been called many things (e.g., integration, mainstreaming), has been implemented in many different ways, and the extent to which young children are included varies from state to state, community to community. There is little uniformity in what inclusion is or is not and the extent to which young children with disabilities have access to it.
- Multiple factors shape implementation of inclusion. Certain key factors are critical to inclusion being successful. These include research-based instructional strategies (e.g., embedded interventions) being implemented as intended with children with disabilities and strong collaboration among parents, teachers, and specialists in the context of inclusion.
- Inclusion can benefit young children with and without disabilities, and many families view inclusion in a positive light.
- Early childhood professionals may not be adequately prepared in preservice education or supported on the job to implement inclusion. Professional development on inclusion is a critical need for ensuring that high-quality inclusion services and programs are available for young children with disabilities.

Societal and Professional Support

In principle, the concept of inclusion has had broad support in the United States as part of broader societal values related to individual rights to freedom, education, and full citizenship.

However, the lack of a shared understanding about what inclusion means has led to challenges with implementation. The search for a uniform agreed-upon national definition of early childhood inclusion came to fruition in 2009 when the two national early childhood professional organizations, Division for Early Childhood of the Council for Exceptional Children (DEC/CEC) and the National Association for the Education of Young Children (NAEYC), published a joint position statement specifying a definition and key features of high-quality early childhood inclusion. The definition is as follows:

Early childhood inclusion embodies the values, policies, and practices that support the right of every infant and young child and his or her family, regardless of ability, to participate in a broad range of activities and contexts as full members of families, communities, and society. The desired results of inclusive experiences for children with and without disabilities and their families include a sense of belonging and membership, positive social relationships and friendships, and development and learning to reach their full potential. The defining features of inclusion that can be used to identify high quality early childhood programs and services are access, participation, and supports. (DEC/NAEYC, 2009, p. 2)

As stated in the joint position statement, *access* means providing a wide range of inclusive learning opportunities, activities, settings, and environments for young children with disabilities. *Participation* means intentionally making accommodations, modifications, and using a range of strategies and approaches to ensure that young children with disabilities fully participate in play and learning activities with peers and adults. *Supports* refer to the systems-level components that must be in place to undergird the efforts of individuals and organizations providing inclusive services to children and families. These include structures and opportunities for collaboration among professionals and families, professional development on research-based inclusive practices, adequate resources to support high-quality

inclusion, policies supporting inclusion, and research and evaluation to learn more about inclusive strategies and approaches that are effective. More details about the joint position statement and each of these essential features is available at the website of the National Professional Development Center on Inclusion.

Recommendations

The legal, research, and values base for inclusion is strong. To ensure that each and every young child with a disability has access to participate in high-quality inclusive services and that the practitioners who serve those children receive the support they need requires ongoing efforts. What follows are recommendations for leaders, practitioners, and families for achieving that goal.

- Examine program policies (e.g., admissions, service delivery) and mission statements in light of the definition and key features of early childhood inclusion to ensure that children with disabilities and their families feel welcomed by the program, and share these policies with all staff and families to ensure they understand the commitment to inclusion.
- Examine program structures and resource allocation to ensure that staff have the support they need to fully implement high-quality inclusion.
- Provide staff with accessible, affordable, high-quality professional development opportunities to facilitate their acquisition and application of research-based inclusion practices.
- Advocate for federal, state, and community policies, procedures, standards, and systems that support the implementation of high-quality inclusion.
- Participate in and conduct research and evaluation to learn more about inclusive strategies and approaches that are effective in promoting positive and desired child and family outcomes.

Pam Winton

See also Americans with Disabilities Act; Developmental Disabilities; Early Childhood Special Education

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Websites

- National Professional Development Center on Inclusion: <http://fpg.unc.edu/projects/national-professional-development-center-inclusion>

EARLY CHILDHOOD RESEARCH AND POLICY LINKAGES

Early childhood research has contributed significantly to the development of public policies to create and expand services for young children and their families. Most recently, research on the neurodevelopment of children during the first 3 years of life has demonstrated how critical early experiences are to children's future development and school success. These early experiences impact the degree to which children form attachments, are curious and interested in the world around them, and develop the ability to communicate, explore,

learn, and play. The importance of early neurodevelopment and the findings from several classic early childhood longitudinal studies have spurred legislation to create programs at the federal and state levels, such as Head Start and Early Head Start, early childhood special education, and state prekindergartens.

The translation of the research findings to actual program implementation is linked through the legislative process and policy development. Legislation identifies the services and the appropriations to fund them. Regulations then are written to provide guidance on issues such as what the services are, who will receive services, and who the providers of the services may be. Policy decisions then make explicit the conditions under which new services are developed, implemented, funded, and evaluated. In some situations, research findings provide clear guidance for what policies should be written and enacted. In other cases, policies are implemented before the research evidence is fully available, and subsequent research is used to support and sustain the continuation of policies.

This entry presents the links between research and policy in the expansion of services for young children considered at risk for later school problems, because of either poverty or disabilities. The influence of values and public advocacy on research and policy also is addressed as components within an ongoing cycle of research and policy development.

Policy Spurs Research: Head Start

In 1964, the Head Start program was created as part of the War on Poverty under the Economic Improvement Act. The goal of Head Start was to break the cycle of poverty by providing early compensatory education to young children prior to formal schooling. Head Start also included the provision of health, dental, and nutritional services to improve the wellness of children in poverty.

In many ways, Head Start was initiated as a promise to improve educational and economic outcomes for poor children and as a statement that young children are valued. It was sustained over time because of research findings that demonstrated unequivocally that early education was a

sound investment based on long-term outcomes for the participants. More than 50 years later, Head Start serves almost 1 million children each year from birth to age 5. The research to support the continuation of policies for compensatory early childhood programs, such as Head Start, is well established, as are the values and advocacy for maintaining these programs.

The evidence most frequently cited to support the continuation of Head Start has come from two major research studies, initiated during the early years of Head Start. In 1962, the High/Scope Perry Preschool Project enrolled 123 African American children living in poverty. Half of the preschool children were randomly assigned to a high-quality preschool and the other half received no services. Those who attended 2 years of preschool consistently scored higher on language and intelligence tests up to second grade. Later, when tested at ages 9, 10, and 14, the preschool group also scored significantly higher than its peer group on school achievement tests. Members of the preschool-educated group were more likely to graduate from high school, and at follow-up checks made at ages 27 and 40, they were more likely to be employed than the peer group who received no preschool.

Similar gains were noted in a second study, the Carolina Abecedarian Project, in which 111 infants, living in poverty, were assigned randomly to one of two programs through kindergarten entry. Both groups received full-day, year-round child care, but one group also received an enriched curriculum. The children who received the enriched curriculum showed greater gains than their peers, as measured by higher IQ scores at 36 and 54 months. Gains in performance were noted at follow-up assessments conducted when the children were 15 and 21 years of age. As in the first study, long-term follow-up measures showed better life outcomes.

Despite evidence in support of preschool for children in poverty, Head Start is not available for all eligible children. The program is funded in local communities through a competitive grant application process that is managed federally through regional offices. An estimated half of all children who could benefit from Head Start are able to

enroll because of the limited number of programs and enrollment slots. Federal policy has not yet responded to the benefits of universal preschool for children in poverty, although the research findings are clear. Increasing access to Head Start or other prekindergarten programs will require public advocacy, the efforts of communities to press for greater spending, or expanded legislation, if all children are to be served. Efforts in most states to fund additional prekindergarten programs eventually may fill this program gap.

Policy Follows Research: Services for Preschoolers With Disabilities

An accumulating body of research on the effectiveness of early intervention for children with developmental delays or disabilities led to the 1986 reauthorization of the Individuals with Disabilities Education Act (IDEA). This legislation changed the age when school-age services for children with disabilities became available from age 6 to age 3 and provided states with incentives to develop a service system for infants and toddlers with disabilities and their families. For the first time, children with disabilities could receive services from birth through 21 if they met their state's eligibility requirements.

Research findings and advocacy efforts combined to create this expansion of services to very young children. Between 1968 and 1986, the Office of Special Education Programs in the U.S. Department of Education funded hundreds of research and demonstration projects as well as personnel development programs to assess the extent to which services could be developed and implemented to improve the quality of life and enhance learning of young children with disabilities. The preponderance of research and demonstration programs provided evidence that preschool services for young children with disabilities provided educational and economic benefits. Findings from demonstration projects also provided a range of models for providing services, including serving children in community child care programs, Head Start, self-contained public school special education classes, home visiting, or a combination of services.

Federal regulations developed for the IDEA legislation required that preschool-age children be served in "the least restrictive environment" (LRE), which is interpreted as the opportunity to be educated with peers without disabilities to the greatest extent possible. The LRE policy allows the addition of supports in the form of adaptations and accommodations as well as paraprofessional aides as needed. As a result of the expansion of services for preschool-age children with disabilities and the LRE policy, almost 65% of children with disabilities attend regular early childhood programs for some of their school day. In 2012, 6% of all children ages 3 to 5 received early childhood special education services. Their increasing presence in regular early childhood programs has produced both research on effective strategies for inclusion as well as widespread discussion among professional groups on how best to support children with disabilities in inclusive programs.

Research and Values Expand Policy: Inclusion

The National Association for the Education of Young Children (NAEYC) and the Division for Early Childhood of the Council for Exceptional Children (DEC/CEC) collaborated on a joint policy statement to guide their members in the field of early childhood education on inclusion. This policy statement builds on research as well as federal policy. It is values based in that it supports the rights of every child and family, without regard to ability, to participate as full members of their communities. Developed by the two primary early childhood organizations in the country, it advocates for the inclusion of all children.

Three features define the policy of inclusion: access, participation, and supports. Access refers to ensuring that all children can be engaged through the use of universal design and, as needed, assistive technology and augmentative communication devices. Universal design refers to creating curriculum that supports multiple ways to represent a concept, to express knowledge of the concept, and to engage in the learning process. It recognizes that individual learning is unique and is designed to

reduce barriers to representing, expressing, or engaging in learning. The concept is consistent with teaching practices that are flexible and address the developmental age and abilities of each child. Participation refers to the active involvement of children in the curriculum and can be supported in a variety of ways, including modifying or simplifying activities, having peers help one another, or providing various levels of instructional support.

Extensive research has provided strategies on how to support social interactions among young children with and without disabilities. Likewise, much research is available on varying levels of instructional supports, including cuing, prompting, modeling, and hand over hand. The policy statement also addresses the system-wide supports that teachers, staff, and administrators need to address the social and learning needs of all children. Examples include opportunities for professional development, for collaborative planning, and for consultation.

Research Expands State Policy

As of 2015, 44 states have funded preschool programs, enrolling as many as 1.3 million children. The majority of children served are age 4, and the intent of the programs is to prepare them for their next year of formal schooling (kindergarten). Enrollment varies widely across states, however. Federal policy and federal funds are not the drivers of these programs; instead, states have passed legislation to appropriate funds to support the expansion of services. Some states share the cost of prekindergarten through a formula of state and local funds. The impact of research on gains made in early childhood programs is a major influence in state policy establishing early childhood services.

The extent to which states are willing and able to identify funds for the prekindergarten programs impacts the number and percentage of children served. In most states, eligibility for services is related to income level or specific risk factors (e.g., English language learners, single-parent homes). In a few states, prekindergarten programs and local Head Start programs collaborate in the delivery of services. In other states, the programs operate independently.

A point of debate is the extent to which funding is adequate to ensure that programs are high in quality and staffed with licensed teachers. One way to estimate the quality of the programs is the use of benchmarks created by the National Institute of Early Education Research (NIEER). It identified 10 quality standards or benchmarks that are well supported by the research literature as indicators of minimum criteria for effective, high-quality programs. Examples include class size and teacher ratio, use of early learning standards, in-service training for staff, and specialized training in early childhood. As of 2014, all participating states met the benchmark of adopting early learning standards to guide their curriculum. However, only five states met all 10 benchmarks, and another 15 met at least eight benchmarks.

Policy makers have noted that state-funded prekindergarten programs are at a crossroads. Funding has not increased substantially in recent years. Although legislation has been proposed for a federal–state partnership to fund preschool for all low- and moderate-income 4-year-old children, this had not been enacted into law as of mid-2015. The commitment of a majority of states to provide some level of early childhood education to children living in poverty, however, underscores the growing acknowledgment that early schooling makes a difference in long-term educational outcomes.

Susan A. Fowler

See also At-Risk Families; Early Childhood Inclusion; Head Start; History of Early Childhood Education Policy; School Readiness

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EARLY CHILDHOOD SCIENCE EXPERIENCES

Young children are biologically equipped to actively explore and learn about their world. From infancy onward, evolving brain structures enable sensory attention and trigger curiosity about their environment. Curiosity events recruit neurochemicals that prompt emotional responses and promote memory—the deepest roots of learning. Each new learning experience changes and enlarges neural pathways in the brain to allow for more learning. When intriguing, developmentally appropriate experiences are provided to help young children enjoy investigating their world, and guidance is offered to make conceptual meaning of their discoveries, the curiosity-motivated capacity for further learning is nourished. Supporting this intrinsic reaching out for knowledge is the purpose for early childhood science experiences. This entry traces the rise of interest in early childhood science experiences as pedagogy, and reports on research on the underlying cognition and the beneficial outcomes of those learning opportunities. It then describes two differing perspectives on providing appropriate early childhood

science investigations, and points to the trending use of the environment as a valued context for early childhood science experiences.

History

The progenitor of early childhood science experiences was Friedrich Froebel. His pioneering 1840 kindergarten established play-based learning as children's eager way of discovering how things work. Froebel promoted outdoor play and gardening for learning in and about nature. He developed holistic activities using many learning pathways, and designed learning manipulatives to help children understand mathematic relationships. The principles and practices that he originated continue to influence early education worldwide.

Nevertheless, the prevailing belief among other educators continued to hold that young children lacked the intellectual capacity to learn much of academic significance in the years before school. Seminal research in cognitive development by Jean Piaget in late 1950 spurred wide interest in how and when young children can do abstract reasoning about phenomena. By 1970, research findings challenged Piaget's age/stage-limited theories that set 8 years of age as the beginning of abstract thinking. Researchers found, instead, that children are able to reason about things they experience much earlier, and with greater capability than Piaget had proposed.

In the same period an education philosopher, David Hawkins, founded a Colorado preschool focused on developing learning through open-ended, in-depth, long-term projects to answer questions children raise. Children and teachers collaborate to plan and carry out active investigations in the school, community, and in nature. Hawkins's writing about his project approach and his leadership in public education policy brought early childhood science experiences into the education mainstream. In 2012, a National Science Teachers Association position paper, *Early Childhood Science Education*, officially acknowledged that early fostering of children's

curiosity and pleasure in exploring their familiar world lies the foundation for the K–12 science learning ahead.

Research

Research foundational to early childhood science experiences shows

- emotion and cognition are inseparable, critical components of learning;
- the emotional response to curiosity enhances memory and prompts further curiosity;
- young children understand more from science experiences with tangible materials than from virtual manipulatives; and
- using the environment as an integrating context for learning significantly raises children's academic achievement.

Teaching Approaches

Meaningful science experiences for young children build on the emotional underpinnings of their innate curiosity, their concerns about their everyday world, and their pleasure in exploring their world. Direct, didactic teaching *about* science is antithetical to experiencing science firsthand. The range of valid approaches to providing firsthand experiences tend to fall in varying degrees into two categories:

Child-Initiated Experiences. Constructivist science approaches provide younger children with appropriate materials such as sand and water, simple equipment, and sufficient time for repeated, spontaneous explorations while teachers offer *indirect* guidance to encourage children's thinking and talking about their discoveries with other children. According to constructivist theory, children's active engagement enables building new knowledge upon their existing knowledge. The teacher participates more actively in guiding older children, introducing measurement and observation tools, conducting meaningful dialogues with children, scaffolding to stretch their reasoning, and indirectly leading them toward broad concepts such as *change*

through growth and *form and function*. Related math, writing, and art extend the learning.

Teacher-Initiated Experiences. Carefully chosen, emotionally engaging science experiences are organized and guided by teachers to lead children toward conceptual knowledge. Investigations are introduced by raising questions relevant to children's immediate experience. Children contribute what they already know, and raise further questions in class discussions. Active, firsthand explorations and observations of familiar materials and events are then led by *indirect* probes and questions to help children find concept-building answers. Follow-up discussions process what took place in the investigations, and consider connections with previous conceptual learning.

The concepts are reinforced by integrating them across other disciplines and aspects of the curriculum, including math, literature, art, music, creative movement, creative thinking, and dramatic play. Howard Gardner points out that confirming a concept in many contexts leads to deeper understanding, and better reaches the varied learning orientations among children. Integrating science experiences with other aspects of the curriculum and making connections among concepts align with the "crosscutting concepts" dimension of the Next Generation Science Standards for Grades K–12, while developing concept learning builds foundations toward understanding the "core ideas" dimension of the Next Generation Science Standards.

The Outdoors as a Context for Science Experiences

There is a rapidly growing trend in this country and abroad to develop natural school environments and school gardens so that the benefits of outdoor play and learning in nature can enhance the whole preschool and elementary school child. This early appreciation of nature preserves children's sense of wonder and sets them on a path to future responsible stewardship of the earth—worthy and hopeful science experiences.

Jean Durgin Harlan

See also Constructivism; Curiosity; Integrated Curriculum; Outdoor Play Spaces; Project Approach

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EARLY CHILDHOOD SPECIAL EDUCATION

Early childhood special education, often referred to as ECSE, is a broad term used to define programs and services for children 3 to 5 years old who have a diagnosed disability or a developmental delay. The Education for All Handicapped Children Act of 1975, which was amended in 1986 to add preschool children, evolved into the Individuals with Disabilities Education Act (IDEA) of 2004 and now has two parts to ensure that very young children receive services and interventions as do their school-age peers. Part B of IDEA refers to services and programs that support children between the ages of 3 to 21 years old and are referred to as school-age programs. Programs specifically for children 3 to 5 years of age under Part B (Subpart H) are classified as early childhood special education, or ECSE. Part C of IDEA was added later in 1996 and is for educational programs for infants and toddlers, birth to age 3, and is classified as early intervention, or EI. Table 1 compares Part B services and Part C services for IDEA. ECSE, Part B, commonly referred to as preschool services, is a blend of early childhood education best practices, child development, and special education services.

There are many ways to qualify for ECSE services. First, if a child has received early intervention services he or she will be transitioned to ECSE when he or she turns 3 years of age. If transitioning from EI, the individual family service plan (IFSP), a family-centered and state-run program created for EI, will no longer be in place. The school district will now be responsible, and an individualized education program (IEP) will be written.

Although some children receive a firm diagnosis for conditions such as deafness and Down syndrome between birth and age 3 because of newborn hearing screenings and genetic testing, other children receive early intervention services because of developmental delays or being at risk for developmental delays. However, a child will no longer qualify for ECSE services without a specific

Table 1 IDEA Part B and Part C Comparison*

	<i>IDEA Part B—Early Childhood Special Education (ECSE)</i>	<i>IDEA Part C—Early Intervention (EI)</i>
Age range	Part B is for those 3 to 21 years of age; ECSE is specifically for children 3 to 5 years old	Birth to age 3 years
Financially responsible for services and coordination	School districts	States
Environments	Preschool, prekindergarten, special education classrooms, child care centers, and kindergartens	Natural setting for the child: home or child care
Central focus	The child	The family and child
Binding document created	Individualized education program (IEP)	Individualized family service plan (IFSP)
Document and plan reviewed	Once a year	Every 6 months

* Comparison of services for young children with a special need or developmental delay (Individuals with Disabilities Education Improvement Act of 2004 Public Law 108-446).

diagnosis, confirmed health impairment, or documented delay. If a child did not receive EI services, he or she may still qualify for ECSE. There are multiple pathways that allow children to be eligible for services including to be referred for ECSE through school staff, physicians, and child find agencies as well as through the tiered system of response to intervention (RTI).

Once a child qualifies for ECSE, an IEP will be written to include services, interventions, and environments and it must be reviewed each year. Typically for children 3 to 5 years of age, the educational environments include preschools for typically developing children, special education preschools, prekindergartens, and kindergartens in both public and private settings, as well as child care centers and other community-based settings. Service providers include speech and language therapists, occupational therapists, physical therapists, teachers of the deaf, teachers of the visually impaired, mobility specialists, special education teachers, advocates, social workers, behavior specialists, psychologists, and nutrition

counselors. The coordination of services for Part B is maintained through the child's local school district. Additionally, the early childhood education teacher and classroom aides become part of the IEP team for ECSE. Part B ECSE services are often met in inclusive settings or the least restrictive environment (LRE), with interventions embedded in play, caregiving, and daily routines.

According to a 2009 position statement from the Division for Early Childhood (DEC) and the National Association for the Education of Young Children (NAEYC), there are three main areas to consider for early childhood special education: access, participation, and supports. Barriers to learning are to be avoided so that children with and without delays are educated together. This involves giving children equal access not only to toys and the classroom environment but also to content, language, peers, and assessments. This access is more than allowing a child with a special need into a general education preschool and more than just attending or being present in the classroom. The child with a special need must also have access

to and be a fully participating member of the classroom community to gain the most benefit from the early childhood classroom. To have access and ensure participation, supports, scaffolds, and other interventions are provided to allow the child with a special need to fully benefit in an early childhood special education setting.

To ensure that all children have access, the concept of universal design for learning (UDL) is commonly used. In classrooms designed according to UDL principles, content is shared or represented in various ways to meet the needs of all learners. The child has multiple ways to be engaged with content and peers. Finally, the child, regardless of his or her disability, must be able to express his or her understanding and knowledge without barriers. Understanding by Design (UbD) as well as differentiated instruction (DI) play important roles as classrooms, activities, and curricula are designed to ensure success for all learners. UbD ensures goals and outcomes are created to best meet each individual child's needs while ensuring progress. Modifications, adaptations, and differentiation are provided to meet each child's unique pathway to those goals. This includes the environment as well as the curriculum, teaching strategies, interventions, assessment, and instructional practices used.

Collaboration among early childhood professionals, special education teachers, specialists, therapists, and families is essential and a necessary part of a successful ECSE program. Families remain an important partner in ECSE, just as they are in early childhood education and early intervention. Families are included in IEP development and are considered a main resource for providing information regarding their child.

As professionals across specialty areas (i.e., special education, speech, physical therapy, early childhood) work together, there are often different philosophies represented. Each professional, based on his or her expertise, tries to best meet the needs of the child with a disability. There can be conflicts with what is seen as developmentally appropriate practice (DAP) for early childhood education when providing services that include therapy, hand-over-hand guidance in helping a child with

tasks, and other one-on-one adult-led sessions. However, DAP and special education frameworks have many common overlaps including individualization, family and cultural focus, following the child's interests and strengths, and scaffolding children's learning to document growth. DAP can be the basis or foundation of the ECSE classroom and does not require any aspect of special education services to be changed or adjusted. However, this can only happen if all professionals involved in ECSE programs, regardless of area of specialization, are familiar with child development and early childhood best practices and agree to build therapy and interventions in developmentally appropriate ways. Continued professional development for all involved as well as time for consultation and collaboration is essential for ECSE services to be successful.

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See also Developmentally Appropriate Practice; Differentiation; Early Childhood Inclusion; Early Intervention; Individualized Family Service Plan and Individualized Education Program

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EARLY CHILDHOOD TEACHER EDUCATION

There are certain issues of importance for all students in the field of early childhood education. Those training to be early childhood care providers and teachers will work with society's youngest members at a critical time period of their lives. Work in this field is often seen as nothing more than playing with or babysitting infants and young children. However, students of early childhood education need to recognize the rich history and wide-ranging research supporting the field. Students also need to understand the importance and long-lasting effects of this significant work in a young child's life—as well as in the lives of a child's family.

Working in the varying environments serving families with young children requires solid education with guided practical experiences. This education includes knowledge of the 200-plus-year history of early pioneers in the field as well as knowledge of the recent theories guiding the knowledge of child development and early childhood education. How are best practices understood? Why is it vital for the early childhood workforce to strive for cultural competence? And how do family systems models help inform the practice? Highlighting a number of important issues in early childhood educator training, this entry brings together critical aspects running through the field of early childhood teacher education.

Roots of Child Development

The roots of early childhood education as a field of study cover a period of 200 years from England, Germany, Italy, Switzerland, and the United States. Significant pioneers offer multiple contributions to the field, including John Comenius and John Locke, who were both interested in parent interactions with children, and what it meant to be individuals and citizens in the 17th century. In the 18th century, Johann Oberlin and Johann Pestalozzi organized schools as one way to help prevent poverty and work toward social justice.

Robert Owen's work was influenced by Pestalozzi's idea of introducing schools for infants, reducing the use of children as laborers. Owen also started schools in both Europe and the United States for children of working parents. Educators Margarethe Schurz and Elizabeth Peabody, who had both studied with Friedrich Froebel, helped extend Froebel's kindergartens in the late 1800s in the United States. And Maria Montessori, one of Italy's first female physicians, developed schools for children of the poor, introduced child-sized furniture and materials in school environments, and helped identify strengths in all learners—both able-bodied children and those considered disabled in the early 1900s. These are just some of the men and women whose pioneering work contribute to our understandings of current societal views related to infancy, development, and other issues of early childhood education, according to Harry Morgan, in *Early Childhood Education: History, Theory, and Practice*.

The work of modern psychologists, discussed below, has also influenced the field of early childhood. Additional influence came from a group known as the Transcendentalists, including Horace Mann, Ralph Waldo Emerson, Nathaniel Hawthorne, and Henry David Thoreau. The Transcendentalists were interested in the education of young children and believed people were at their best when they were self-reliant and independent. Educators coming out of this group believed in a child's ability to self-direct and capacity for self-understanding, both principles of constructivism discussed later in this entry. The Transcendentalists also argued for various freedoms—intellectual, moral, and inquiry, as well as the following: “belief in human virtue and respect for all peoples [are] essential human values” (Morgan, 2011, p. 25).

Defining Child Development and the Field of Early Childhood Education

In addition to looking at historical roots of early childhood education, it is equally important to consider how child development is defined. Child development considers those processes in which a child matures in domains—physical, cognitive,

and emotional—as he or she ages. This development includes the acquisition of skills, the ability to manipulate materials, working to achieve goals, and gaining an understanding of how to re-create actions or behaviors. Early childhood education focusing on the span from birth to 8 years is considered the most vulnerable and crucial time in a person's life. It is a time of incredible brain growth, thus laying the foundation for future learning and development. In the United States, early childhood education relates to the development and learning of young children, typically before the start of mandated education. It is important that the period of early education is not viewed as a time when young children are “taught” to develop and learn. Rather, a clear tenet of early childhood education is that through their own development children will grow, learn, and acquire abilities through their interactions with the world.

Early childhood education programs are referred to by many names, including infant and toddler day care or child care, nursery school, preschool, prekindergarten, and the early elementary years—typically kindergarten through third grade. Early childhood education and care can also be delivered in multiple settings: home or center based, and located in urban, suburban, and rural communities. Programs may be offered part-time or part-year, while others offer full-day, year-round services. Programs can also be run privately, as either non-profit or for profit; they may be operated within local school systems or separately as state- or federally funded programs. Early childhood education programs often focus on guiding children's learning through play, with various activities and experiences intended to encourage and support developmental changes as children age.

Best Education Practices Defined

Best practices in development and learning in early childhood education concern what and how an environment or setting can best support a child's development. Looking at growth from the perspective of developmental goals (age, domains) allows parents, caregivers, and teachers to determine the

best ways to provide support. Included within these guidelines are expected abilities for children within certain age ranges or time points.

In addition to the early childhood pioneers, major influences on what is understood as best practices currently stems from 20th century influences from the field of psychology. This includes works of Sigmund Freud, John Dewey, Lev Vygotsky, Jean Piaget, and Erik Erikson, according to Morgan (2011). Through the lenses of these theorists, we can note differences between early childhood education and public education. Historically, prior to 1970 “college education and training for early childhood teachers included an early childhood framework, foundations of sociology, and psychology of early childhood and practice based on 100 year old childhood tradition” (Morgan, 2011, p. 97). This earlier training focused on “how children learn”; however, early childhood teachers trained after 1980 were educated in programs that combined early childhood education along with elementary education teacher training. The training focus changed from how children learn to “what children should be taught” (Morgan, 2011, p. 97). Blended training programs, including elementary, middle, and high school teachers, ignored the significant traditions of early childhood education, something that is currently a struggle within the field, states Morgan.

Following the more recent formula of “what children should be taught” eliminates the early childhood development foundations common to theories of Freud, Piaget, Montessori, and Erikson. These foundational ideas include the notion that individuals pass through phases where a child's growth and development move ahead in chronological, age-sensitive stages and that by missing some experiences at certain time points development discontinues. Additional to this framework is the idea that development is influenced by the multiple relationships children have including those between peers, teachers, parents, and other significant adults and by the environments in which a child lives. The “what children should be taught” philosophy denies both children and teachers the opportunity to discover “how children learn” (Morgan, 2011).

Other aspects involving the history of the field of early childhood education and influences on best practices in education include issues of human rights—that all children have these rights and that these human rights have been ignored toward certain populations, in particular Native American and African American children. Additional historical events influencing early childhood education include the freedom movement to end slavery, the women’s rights movement, social concerns including child labor practices, care and placement of orphans, general interest in the education of young children, and the view that the practice of early education is also a human service. Even now many adults remain unaware of the education needs for society’s youngest members. A common question around educating children aged 6 years and under remains, “Who needs special training to teach ‘the little ones’?” (Morgan, 2011, p. xi).

National Association for the Education of Young Children

The leading organization focusing on early childhood education, the National Association for the Education of Young Children (NAEYC), guides the field in defining best practices. A major emphasis of the organization is to disseminate information that outlines practices promoting optimal learning and development in young children. The following list, while comprehensive, is not all-inclusive and is a rendering of NAEYC’s (2009) best practices for making decisions and meeting the needs of young children:

- Development and learning follow sequential patterns and build on previous skills:
 - Can occur at varying and uneven rates in individual children;
 - Occur with interactions between maturation and experience;
 - Happen best in children within secure and consistent relationships among adults and positive peers;
 - Happen and are influenced by social and cultural contexts;

- Progress when children are challenged just beyond their ability and when they have multiple opportunities to practice new skills.
- The physical, social, emotional, and cognitive domains are important and interrelated with development in one area influencing other areas.
- Early experiences can have profound effects on development and learning, and there are “optimal periods” for some categories of development to occur.
- Development evolves from less complex to more complex.
- Children learn in multiple ways, responding to various strategies and interactions.
- Play helps develop a child’s language and cognitive skills, as well as social competence.
- Experiences affect children’s motivation and approach to learning (e.g., persistence, initiative, flexibility).

Along with best practices, the following NAEYC guidelines list five key and interrelated areas of practice for early childhood professionals’ decision making:

1. Creating a caring community of learners
2. Teaching to enhance development and learning
3. Planning curriculum to achieve important goals
4. Assessing children’s development and learning
5. Establishing reciprocal relationships with families (NAEYC, 2009)

Important Issues in Educating Early Childhood Teachers

Constructivism

Some authors state that any discussion of best practices in early childhood education would be incomplete by not addressing constructivism or constructivist learning. Although not a theory of

teaching, constructivism is a theory about knowledge and learning, and serves as the basis for many current reforms in education, according to Jacqueline Grennon Brooks and Martin Brooks. In opposition to more traditional views of education, constructivist learning allows schools to implement practices that encourage students to think, rethink, demonstrate, and exhibit their knowledge or understanding. Traditional educational process tends to emphasize either rightness or wrongness; however, with the constructivist model these divisions are no longer helpful. The constructivist classroom offers a new approach to what goes on within schools.

The National Science Teachers Association calls for education reform based on hands-on experimentation, learner-generated questions, and investigations. This description matches well with NAEYC's best practices listed above.

Learning through a constructivist perspective is a self-regulated process with the learner resolving cognitive conflicts by way of concrete experiences, collaborative discourse, and reflection. This is an eloquent description of early childhood education's focus on how children learn and puts the learner in charge. Constructivist pedagogy brings a view of the student as thinker, creator, and constructor, highlighting many educators' and parents' concerns with the current campaign in the United States focusing on universal standardized curriculums and assessment. Five overarching principles to constructivist pedagogy are offered:

1. Posing problems of emerging relevance to learners
2. Structuring learning around "big ideas" or primary concepts
3. Seeking and valuing students' points of view
4. Adapting curriculum to address students' suppositions
5. Assessing student learning in the context of teaching (Grennon Brooks & Brooks, 1993, p. viii)

Again, with these principles it is clear that the students are placed in the forefront of the education process. With constructivist education, students come to understand that they are responsible for their own learning within an environment that follows these principles. This view of education is in opposition to the habitual rehearsal approach to learning so often found in elementary teacher training programs and school classrooms—where the education focus more closely fits the "what children should be taught" philosophy. Basic to creating environments that support constructivism, teachers must become constructivists, providing environments where students are allowed to search for meaning, appreciate uncertainty, and inquire responsibly.

Emergent Curriculum

Continuing with the idea of best practices brings us to a brief look at emergent curriculum. In its own way, early childhood education is constructivist in nature and so very appropriate. Emergent curriculum is curriculum that is co-constructed between children and teachers, based on the students' interests and passions. It is a nonlinear task, and can be messy in operation with no prescribed end point, all which allows children to enter and pursue the curriculum as they wish. The process requires a great deal of flexibility and creativity on the part of the teacher, as well as giving up a certain sense of control on where things will lead. Goals for emergent curriculum include addressing and respecting individual children's interests, keeping the focus on where the learner's interests lead, which may be nonspecific and without predetermined end points. This outcome is often the complete opposite of curriculum goals prescribed by teachers or school boards. Emergent curriculum is based on the premise that children are capable navigators of what they want to learn, and as Carolyn Edwards notes, "Teachers honestly do not know where a group will end up" (Edwards, Gandini, & Forman, 1993, p. 159).

Rather than an "anything goes" approach to learning, constructivist teachers can and should

help steer the process of learning. An example from this author's experience revolves around a prekindergarten class's interest in stories. While exploring stories and the various ways they can be expressed, students read multiple books by a favorite author and took a trip to a children's theater to see the story presented as a play, and this led to the group's desire to write its own book. This curriculum project emerged from students' strong interest in and early abilities to read and write. Not initially viewed as a long-term project by the teaching team, at the end of a 3-month period the students wrote, illustrated, and created a book about their classroom pet rabbit. Different areas of interest were included and investigated as they arose from the students who had a long history with the rabbit.

A writing center, art center, and classroom library were constants in the classroom, as were regular trips to the local library to check out books. In the dramatic play area, children spontaneously acted out stories from books read as well as doing reenactments of the theater production. The group even investigated how books are put together with a children's book illustrator and came to understand the multiple processes used by writers and illustrators. Children entered and exited the process as their interests guided them and in the end all children participated in and had ownership of the process and final product of the classroom book.

Cultural Competence

The issue of cultural competence and its importance in early childhood teacher education programs cannot be overstated. The term *cultural competence* reflects two ideas: *competence* being the ability to do something successfully, while *culture* can be described as the customs and social behaviors of a society. Placed together, cultural competence can be understood as the ability to successfully interact with the various customs and social behaviors of a society. As our world population continues to become more and more diverse, recognizing the inherent worth of all its members is vital. For early childhood educators, one goal of

cultural competence is that we become more aware of and more respectful of multiple cultures and customs. As such we must "look closely at our views, feelings, information, and behaviors in relation to the many issues of race, racial identity, and racism" (Derman-Sparks & Ramsey, 2011, p. 19). One of the most important aspects for early childhood teacher education is to learn about and be comfortable among the various cultures that make up the children and families served.

For preservice early childhood teachers, addressing issues around diversity is one of the most intimidating aspects of their education, according to some researchers. Asking young people to be culturally competent often raises anxiety—especially for those with limited life experience. Students typically have two main concerns. They ask, "How can we know everything about every different culture we may deal with?" And they often have the belief that "all of the children we work with are the same." Both concerns are misguided—first as educators with cultures and histories of their own, teachers do not need to know or be expected to know everything about all other cultures. Teachers do, however, need to recognize and respect differences and be aware of biases toward lifestyles or behaviors that they do not know about or understand. This includes lifestyle choices, skin color, behaviors, languages, and religious beliefs, to name a few. Second, no matter how similar teachers may think others are—their peers, the children in their care, or their families—they all have their own perspectives, beliefs, and understandings of what is viewed as normal. Understanding and working toward letting go of these issues are important steps in gaining cultural competence. As educators, "We must also help children develop individual and group identities that recognize and resist the false notions of racial superiority and racial entitlement" (Derman-Sparks & Ramsey, 2011, p. 3).

What If All the Kids Are White?, by Louise Derman-Sparks and Patricia G. Ramsey, helps clarify what is required of early childhood educators on the issue of cultural competence. Society wants educators, families, and children to embrace diversity—but it is also important that

teachers develop their own awareness about their relationships, feelings, and behaviors in dealing with issues of diversity, including race, racial identity, and racism. Doing any anti-racism work begins first and foremost with the individual self—through self-reflection and looking honestly at our own biases and prejudices. As stated earlier, teachers need to become constructivists in order to use it well. Similarly, to develop and use anti-bias multicultural curriculum, educators must accept that they all need to take the “anti-racism journey.” This is another area where the work of reflective practice can be a powerful tool for early childhood caregivers and educators. When teachers expand and deepen their awareness and knowledge of the self, “pursuing [the] work with honesty, persistence, and humility,” they not only move themselves along the anti-racism multicultural road but also provide models for others to follow (Derman-Sparks & Ramsey, 2011, p. 20).

Another way to look at working toward cultural competence is to ask the question, “What are children learning?” when an anti-bias multicultural curriculum is being used and when it is not. The saying “Children are always learning something” is a reminder that whether information is given intentionally or unintentionally, it is still given. Teachers must be aware of the messages children pick up from their teachers, families, and the wider society, including implicit and explicit messages of racial superiority and entitlement. There is a better chance that negative images of the self and others will be noticed and changed if educators help everyone recognize how these ideas are spread.

The following anti-bias education goals help illustrate how children and adults can learn to build diverse communities and societies. Depending on the background, ages, and life experiences in a group of children, each child will:

1. Demonstrate self-awareness, confidence, family pride, and positive social identities;
2. Express comfort and joy with human diversity; accurate language for human differences; and deep, caring human connections;
3. Increasingly recognize unfairness, have language to describe unfairness, and understand that unfairness hurts;
4. Demonstrate empowerment and the skills to act, with others or alone, against prejudice and/or discriminatory actions. (Derman-Sparks & Ramsey, 2011, p. 15)

Anti-bias multicultural curriculum education means holding the “hopeful possibilities and meeting challenges” (Derman-Sparks & Ramsey, 2011, p. 27) of living in a culturally competent world. In many ways, this hope is no different from what some of us expect all education to be—something that requires us to engage in our own ongoing growth and understanding about development, and learning about diversity and equity issues.

Application of Family Systems, Collaboration, and Transitions for Children

The final area to be addressed is the use of family systems theory and the collaboration and transitions that are used in various systems for children. What defines family continues to change and broaden in our society, making it imperative that early childhood education and care providers recognize that the children educators serve live within larger family dynamics or family systems. The significance of young children’s families on their development is important to any discussion of early childhood education teacher preparation. An inclusive definition of family includes people living together who care for and support one another. Multiple configurations of people with various ties and commitments to each other (blood, legal, and religious) create modern families.

Parent make-up can involve same-sex, cohabiting, divorced, and remarried couples, or single individuals. Of course, not all members of one’s family will live in the same household; home environments can include parents and one or more children, but may also include relatives of parents/children (grandparents, aunts, uncles, cousins). It is important to note that when early childhood

education programs provide services to a child those interactions and services will in some fashion include other family members. Looking at families from a systems perspective allows educators and service providers to acknowledge and appreciate that the family may follow varying patterns of behavior. This information is important to how services are determined, presented, and received.

There are several aspects to how a family's make-up can affect how the particular family system will act. Family systems theory stems from the work of Murray Bowen, who suggests we cannot understand individuals in isolation from other members of their family. The family unit is a system in which members are interconnected with and interdependent on each other. Additional theoretical approaches stem from Urie Bronfenbrenner's ecological model of human development, which offers five interactive levels or systems in which a person's life occurs. Viewed as concentric circles moving out from a center ring, the model begins in an inner circle with the *microsystem*, made up of the immediate context in which a child interacts. This is followed by the *mesosystem*, involving interactions and relationships that occur between individuals and settings of the microsystem. Next is the *exosystem*, composed of the contexts indirectly influencing the child, for example, the type of neighborhood (inner city, suburban) or the expectations of a parent's job. The exosystem exerts its influence by way of its impact on individuals and institutions in the child's microsystem. The *macrosystem* is composed of political systems, social policy, culture, economic trends, and so forth, and determines the resources, opportunities, and constraints present in the lives of children and families. Completing the model is the *chronosystem*, which interacts with all other aspects of the model representing the elements of time in the individual's life trajectory (infancy, childhood, etc.) and the historical context in which he lives (Weiss, Kreider, Lopez, & Chatman-Nelson, 2010).

In the context of this discussion on early childhood education, the idea of a child living within and affected by a system is an important one. As a child

moves from the care of her immediate family, additional important caregivers and teachers begin a collaboration of relationships and transitions. These relationships will vary due to family needs and desires, and what types of care settings are available, including nannies, early childhood program teachers, and public and private schools including kindergarten through third grade. Care and education settings may vary and include one or more of the following: center- or home-based child care, nursery school, preschool, Head Start, and before- and after-school care. Each of these transitions creates the joining of one or more systems that will overlap, coordinate with, and affect each other. Morgan (2011) notes that this environmental transition brings up sets of human needs often unrequired before. Children move from the protective environment of home (parents, special privileges) into environments of strangers where they are all—children and parents—expected to conform to behaviors that can be difficult to acquire, for example, separating from parents while at child care, competition for caregiver attention, turn-taking rules, and sharing materials. It is also crucial to mention the difficulty of these expectations and changes for those children who do not come from protective home environments—adopted children, those in foster care, or those living in residential living environments.

Looking at children and families through the lenses of systems theory and the multiple collaborations and transitions for their early care/education highlights the importance of social policy. It also raises the significance of proposed policy effects. For example, having a national program providing subsidized child care for parents in the United States would make significant changes in the lives of families with young children. This would also represent a national acknowledgment of the importance of early childhood education by our society. By recognizing the various systems in which we all live, it is easier to understand how systems might affect a child's development and early learning. It is difficult to ignore the multiple effects—social, economic, culture, and history—in which the child is born and raised when viewed within the contexts of Bronfenbrenner's system.

Adding to Bronfenbrenner's model of family systems, we can include the ecology of family engagement. Both models occur across and within contexts that include home, school, and wider communities. These different contexts are made up from various systems influencing a child's development—both directly and indirectly. Key to both models is the interconnections and influences on other systems.

Similar to understanding certain traits of family systems, there is guidance around developing and maintaining family engagement, or the connections needed as a family system moves into collaboration and transition modes. The Harvard Family Research Project (HFRP) offers the following components in its framework for building family engagement (FE) in schools and communities:

- FE occurs as a result of shared responsibility and co-construction;
- FE matters from birth to adulthood but varies over time;
- FE occurs across contexts, in both homes and schools, but in other settings as well (afterschool programs, community centers, libraries). (Weiss et al., 2010, p. xx)

Family engagement with a child's education includes helping with homework, being an advocate for one's child, and helping the child navigate different school systems. Family engagement also includes the beliefs, attitudes, and activities that families hold in order to support their children's learning, a reflection of the significant roles families play in a child's educational life, according to Weiss and colleagues. When children perceive that their schooling is important to their parents they are motivated to do well. Engagement between home and school needs to be continuous throughout the child's education, adjusting to a child's and family's changing roles over time.

How are educators prepared to engage with families? Teachers need to know how to "think critically, quickly, creatively, and responsibly" (HFRP, 2003, in Weiss et al., 2010). These skills are best learned through practicing self-reflection and real-time problem solving in supported preservice

field settings. It is important for early childhood education students to recognize that while schools and parents both want children to be successful there may be disagreement on how to achieve this. One way to approach these differences is by being able to reflect on situations from various viewpoints, those of parents, children, and self. This ability, along with respecting and valuing others (cultural competence), can help educators understand a child's needs from multiple perspectives.

Discussion

This entry began with a brief overview of early childhood education pioneers—men and women looking at and considering the period from birth through 8 years of age for children for hundreds of years. That history, together with more modern theories of development, learning, and relationships, leads educators to an important place in the field of early childhood education. So much is known about how children develop, what best practices are for children, and the specific needs of certain populations. Much of the history and research in this field inform educators: what they need to know in order to provide high-quality care, services, and education to young children. Educators have numerous choices of curriculum at their disposal, including emergent curriculum, discussed here. Looking at individual development within the wider contexts in which we live allows educators to better understand the range of care, advocacy, and educational environments children need. Coming to understand the family as a system helps educators see that they also develop within systems, helping them see the broader perspectives needed in their work. The metaphor of living and working in multiple systems is both practical and useful, especially as educators work toward consensus with families. Educators strive for social equality. Preparing children to be active participants in the world requires that educators see the inherent value in each other. This takes significant and continued commitment as educators reflect on their own practice and act as models for the children in their care.

There is an ongoing need for early childhood educators to continue to work toward learning “how children learn” and to allow children the privilege of self-direction, concrete experiences, collaborative discourse, and reflection.

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See also Constructivism; Family Engagement Models; Family Systems Theories

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EARLY HEAD START

Early Head Start (EHS) is a national program that addresses the needs of low-income pregnant women and families with children under the age of 3. EHS was authorized as part of the Head

Start Act of 1994. Since its beginning, EHS has established a legacy of providing comprehensive child development and family support services to infants, toddlers, and their families. Rigorous research has shown that EHS has positive impacts on children’s cognitive, language, and social-emotional development and improves family self-sufficiency and parental support of the children’s development. This entry describes the EHS program, summarizes findings from its national longitudinal impact evaluation, and concludes with information about the status of the program today. It is important to note that the program effects reported here come from a program that was newly funded and widely implemented across the country—not from a demonstration program or a small-scale, single-site setting.

The Early Head Start Program and Its Evaluation, 1995–2010

The New Initiative Developed and Expanded

In 1994, the Advisory Committee on Services for Families with Infants and Toddlers, appointed by the secretary of the U.S. Department of Health and Human Services (HHS), recommended a new Head Start initiative. EHS was to be a two-generation program aimed at enhancing children’s health and development, strengthening families and community partnerships, and supporting staff to deliver services to low-income families with pregnant women, infants, or toddlers. The program has grown from 68 locations in 1995 to become the largest program of its kind, with 1,020 programs in 2013 serving 111,096 children under 3 and 6,307 pregnant women. Still, 2013 funding levels enabled EHS to reach only 4% of eligible children.

EHS serves highly diverse families. At the time the national evaluation began (1996), about one-third were African American, one-quarter Hispanic/Latino, two-fifths White, and the rest Asian and other racial/ethnic groups. Between 15% and 20% of parents spoke a language other than English (mainly Spanish) as their primary language. Almost half were single-parent families, one-fifth of parents

were in school or job training, and about half were unemployed.

EHS services were provided through several different approaches. As with Head Start, EHS offered children and families comprehensive child development services through center-based, home-based (home visiting), and mixed (center and home) program options. Within these approaches, each program was encouraged to select its own specific curriculum, or to develop its own.

Mathematica Policy Research Evaluation

At the same time as the program launched, the Administration for Children and Families (ACF) in HHS funded Mathematica Policy Research and its partner, the National Center for Children and Families at Columbia University, to conduct an EHS National Research and Evaluation Project (EHSREP) along with 15 university research teams located near the participating program sites. The evaluation's purposes were to learn what impacts this new initiative would have on participating children and families, how program implementation evolved over time, and what might be learned for improving future programs.

In 1996, ACF purposefully selected 17 sites for the evaluation so that, overall, their characteristics would mirror the program approaches and diverse family characteristics of all 143 programs funded at that time. ACF required a randomized trial within each participating program. Thus, when programs began enrolling families, they recruited twice as many as they were funded to serve. Then the evaluators randomly selected about half of the 3,001 families recruited across the sites to be enrolled in the program while the other half became the control group; control group families were allowed to access any services available in the community except EHS.

This entry reports results from assessments of children and their parents completed at four time points: twice during the program period when children were 2 and 3 years old; two years after the program, when children were about to enter kindergarten at age 5; and when the sample reached fifth grade, at about age 10. At ages 2, 3, and 5,

assessments captured the full range of developmental domains (social-emotional, cognitive, health, approaches to learning, language, academic skills); parenting and the home environment; family well-being and mental health; parent self-sufficiency; and program environment. At fifth grade, age-appropriate versions of these domains were assessed, as was the school context.

A comprehensive implementation study confirmed that all programs implemented key features of the Head Start Program Performance Standards, but some did so early, some later, and some did not achieve full implementation during the study. This variation in program quality enabled the evaluation to study what difference it made. In addition, the diversity of enrolled families enabled a study of how EHS might affect different kinds of families in different ways.

Impacts of Participation on Children and Parents at Ages 2, 3, and 5

During the period of the EHS intervention, analysis of assessments at ages 2 and 3 showed a breadth of child impacts across key developmental domains. These included enhanced cognitive and language skills, reduced aggressive behaviors, higher engagement with parents during a play situation, and higher reported immunization rates. Parents also benefited from the program, with impacts on their supports for child learning, daily reading, discipline practices, and enrollment in education or job training. Some impacts were still present two years later, at age 5, when EHS significantly reduced behavior problems and enhanced positive social skills and approaches to learning. At age 5 no impacts on school-related achievement measures were found, nor were there impacts on parent-child play interactions. However, program mothers had lower depression scores when children were 5.

Analyses aimed at understanding factors that mediated program impacts helped to explain the mechanisms by which EHS may have been exerting its beneficial effects. As developmental theory would suggest, several age 5 impacts were more likely when earlier impacts had been present. For example, impacts on positive approaches

to learning at age 5 were mediated by earlier enhancements of parent support for language and literacy, child vocabulary, and reduced aggressive behavior.

Impacts on Subgroups of Families and Programs

All subgroups experienced positive impacts, but they varied. Among family subgroups, African Americans were found to experience the greatest benefits from EHS at both ages 3 and 5. Vocabulary at age 5 was better among Spanish-speaking Hispanic/Latino children (but not among English speakers). Analysis of families differing in number of risk factors (like being a teen mother or high school dropout) found that the moderate-risk group experienced the greatest number of positive impacts relative to its control group.

Among the three types of programs, those adopting the home-based approach generally, across the three ages, were most effective in improving parenting and home environment outcomes along with parental self-sufficiency. In addition, positive impacts for children's social-emotional development emerged at age 5 for those who had been in home-based programs. Mixed-approach programs had the greatest number of impacts (and the largest impacts) on children and families at ages 2 and 3, but not at age 5. Impacts in mixed-approach programs that fully implemented the performance standards were considerably larger than overall impacts at age 3, but not later.

Nonexperimental analyses exploring the role of formal prekindergarten (pre-K) programs (including Head Start) after children left EHS found both positive and negative associations: Pre-K participation between ages 3 and 5 was associated with an increase in age 5 aggressive behaviors (unless the pre-K was Head Start), but pre-K participation may have enhanced academic readiness for kindergarten. Overall, children who were in EHS until age 3 and then in pre-K between 3 and 5 fared best on age 5 measures. But the pattern depended on the type of outcome: enhanced social-emotional and parenting outcomes were explained by EHS

participation, whereas enhanced outcomes in school achievement areas were explained by Head Start and other pre-K participation. The risk of increased aggressive behavior at age 5 that was associated with pre-K participation was less of an issue for those children who had been enrolled in EHS before pre-K.

Impacts at Time of Fifth-Grade Follow-Up

At fifth grade, no overall impacts of the program were found, but some subgroups showed positive effects. By fifth grade, EHS cut grade retention by more than half for those who had been enrolled in center-based programs. EHS participation reduced retention from 19.2% for the control group to 8.3% for the EHS program group. Positive impacts for African American students were found in social-emotional development, parent support for education, and parent mental health. Hispanic/Latino mothers had achieved higher education levels. Consistent with age 2 and age 3 findings (but not age 5), negative impacts in academics were found for children in the highest-risk group. Researchers also found that the current school context played an important role: Outcomes were more positive in schools with lower poverty levels, with a mix of racial groups, but with smaller proportions of minority students.

In seven of the EHS sites, researchers obtained data from state child welfare agencies to investigate child welfare system involvement of program and control children who had participated in the EHSREP. Dramatic positive impacts occurred after children reached school age, based on documented reports of child abuse and neglect: Children who had attended EHS were significantly less likely to experience a child welfare encounter between ages 5 and 9 than were control group children. Although EHS children had significantly more reports of neglect than did the controls, the EHS group had 29% fewer substantiated reports of physical or sexual abuse across all ages 2 to 9 (and 38% fewer total encounters between ages 5 and 9).

Continued Expansion of Early Head Start

The EHS Family and Child Experiences Survey (Baby FACES) is a longitudinal study of a nationally representative sample of 89 EHS programs. When Baby FACES began in 2009, 36% of participants were Hispanic/Latino, 26% White, 23% African American, and 15% Asian and members of other racial or ethnic groups. About 29% were teenage mothers. Since 2009, Baby FACES has studied two groups of children and families: (1) pregnant women and newborns and (2) 1-year-olds. They were followed annually until children were 3 or left the program. Data included interviews with parents, staff (teachers and home visitors), and program directors; staff-child reports; direct child assessments at ages 2 and 3; video-recorded parent-child interactions; observations of classroom and home visit quality; and weekly staff reports on services that families were offered and received.

Baby FACES was designed to descriptively update and expand information collected in the EHSREP. It provided updated information on how children develop over time, particularly in language and social-emotional domains, how parents interact with their children, and the quality of services. It also captured the amount of services programs offered to families and how much of those services families received. It examined how experiences in the program, such as the quality and amount of services, were associated with child outcomes.

Key findings from Baby FACES include the following:

- Although children continued to lag behind national norms in language development, they showed improvement over time. At age 3, children scored near national norms on a measure of auditory comprehension.
- Average center and home visit quality was in the mid-range.
- Programs offered families services at recommended frequencies and the rate of service use by families was high. Families in the home-based option participated in 75% of offered visits and those in centers attended about 85% of available center days.
- Findings relating participation and quality to outcomes were mixed. For center-based families, higher quality was associated with better receptive vocabulary at age 3, and attending more center days had positive associations with auditory comprehension at age 3. No associations were found between home visit quality or amount of visits and child outcomes.

Baby FACES was not designed to answer questions about whether EHS *causes* better outcomes; the EHSREP had already shown that it can. Baby FACES, however, provides a wealth of information for program improvement efforts. It has demonstrated that programs provide the amount of services that are expected, they do so with decent quality, and families choose to participate in most of them. These facts suggest that EHS programs have the potential to continue providing a positive influence for infants, toddlers, and parents in low-income families.

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See also Child Care; Head Start; Home-Based Early Childhood Education; Infant and Toddler Programming; Parenting Support and Education

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EARLY INTERVENTION

Early intervention, or EI, is a relatively new field within the broader early childhood education profession. Established by the United States Congress in 1986, EI focuses on addressing the unique needs of families of infants and toddlers with or at risk for disabilities, birth to age 2 years. EI programs and services are built on principles and practices that are evidence based from across multiple disciplines, including special education, speech and language, and physical therapy. EI practices are defined by family-centered, routines-based, and multidisciplinary approaches that are unique and adaptable to the changing needs of families and young children.

Over the last few decades, the number of families and their children who receive EI services in home- and community-based settings has increased. As society moves further away from segregated placements and services for individuals with disabilities, more young children with, or at risk for, disabilities have been able to attend a variety of early childhood programs alongside their peers without disabilities. This new reality creates a compelling argument for researchers, practitioners, professional development providers, and policy makers who work within early childhood education to gain a deeper understanding of EI in order for them to effectively promote and advocate for the acceptance and meaningful inclusion of infants

and toddlers with and without disabilities and their families.

What Is Early Intervention?

Federal Statutes That Define Early Intervention

The United States Congress established free and appropriate educational programs and services for individuals with disabilities through Public Law 94-142, or the Education for All Handicapped Act (EHA) of 1975. In 1986, EHA was amended to extend services beginning at birth for individuals with disabilities through the Education for All Handicapped Act Amendments of 1986, or Public Law 99-457. This law established programs of early intervention to increase and enhance developmental outcomes and ultimately the academic success of infants and toddlers with, or at risk for, disabilities beginning at birth. It is important to note that state participation in Part C is discretionary; according to the U.S. Department of Education, as of 2014 all states and territories had opted to access federal funding through this law.

If states receive federal funding through Part C, they are mandated to establish a coordinated, comprehensive, and multidisciplinary system across key agencies to ensure that eligible infants and toddlers with or at risk for disabilities and their families have access to EI services. These services must meet the developmental needs of young children, including cognitive, physical, social, communication, and adaptive. Part H of the EHA Amendments was reauthorized as Part C of the Individuals with Disabilities Education Act (IDEA) of 1990, or Public Law 101-476, and was amended with the passing of the Individuals with Disabilities Education Improvement Act (IDEA) of 2004, or Public Law 108-446.

Eligibility for Early Intervention Services

Under Part C of IDEA, EI services are administered through individual states that require each one to create a process to identify, coordinate, and deliver services to infants and toddlers through age 2 years and their families, based on predetermined

factors. These factors include the presence of (a) an identified developmental delay; (b) a medical diagnosis known to impact development including, but not limited to, blindness, deafness, Down syndrome, or cerebral palsy; or (c) environmental risk factors such as having a parent with a diagnosed mental health disorder, being homeless, or having experienced abuse or neglect.

While every state must provide EI services to eligible infants and toddlers, each state has the discretion to determine eligibility criteria, such as the percentage of delay a child must demonstrate on standardized assessments to receive services, and whether or not to consider specific risk factors when determining eligibility. For example, while Illinois requires a child to demonstrate a 30% delay to access EI services, Tennessee requires a 40% delay, and Arizona requires a 50% delay. Interestingly, the U.S. Department of Defense requires the children of military service members to demonstrate only a 25% delay to access EI services regardless of the families' primary residence. Notwithstanding the individual state's criteria, all potentially eligible children must participate in evaluations addressing developmental needs in order to determine their eligibility for EI services. According to the 36th Annual Report to Congress (2014) by the Office of Special Education Programs (OSEP) of the U.S. Department of Education, in 2012, a total of 333,982 infants and toddlers received Part C early intervention services.

Early Intervention Settings, Service Types, and Professionals

EI services typically occur in the home, although they may be delivered in a variety of settings including but not limited to child care or center-based programs, therapy clinics, libraries, and other community-based settings. In 2012, according to the U.S. Department of Education, 87% of infants and toddlers eligible for EI services were served primarily in their home.

The types of EI services delivered are based on the specific needs of individual children and their families. According to federal regulations, EI services may include special instruction, family

education and home visits, speech-language pathology and audiology services, occupational therapy, physical therapy, psychological services, service coordination, medical diagnostic services, and screenings and assessments necessary to enable infants or toddlers to benefit from other EI services, social work, vision services, assistive technology devices and services, and transportation. Data from the National Early Intervention Longitudinal Study (NEILS) suggest that the EI services most frequently received by eligible children and families are service coordination, speech and language therapy, and special instruction for the child.

EI professionals include early childhood and special educators, physical therapists, occupational therapists, speech-language pathologists, audiologists, social workers, psychologists, registered dietitians, family therapists, vision specialists, orientation and mobility specialists, physicians, and nurses. Kathleen Hebbeler and her colleagues (2007) reported that EI professionals tend to be mostly female (95%), White, monolingual, with diverse educational experiences, and varying years of experience working with infants and toddlers with, or at risk for, disabilities. Individual states have latitude in how they ensure that EI providers have the necessary qualifications to work within their state's Part C system as national standard licensing for EI providers do not exist, nor is there reciprocity across states as each state determines its own credentialing, certification, or licensure process to demonstrate EI providers' experience and qualifications.

Foundations of Early Intervention

Early intervention draws from research conducted across disciplines including the medical, educational, behavioral, and social science fields. It is built on the growing knowledge of how infants and toddlers develop, and the nature and effects of the transactional relationship they have with adult caregivers, peers, and the environment.

Studies on brain development have greatly impacted the philosophy and approach that guide EI services. The scientific evidence on the profound impact of the environment on the development of

the human brain is compelling. Specifically, researchers point to the powerful influence of early interactions on young children's brain development. These findings highlight the vital role that families and caregivers play in facilitating children's learning and development, especially the need for consistent and responsive care by significant adults. Moreover, the National Scientific Council on the Developing Child (2007) clearly points to the importance of the early years, particularly between birth and 3 years, as a critical time for the developing brain. These findings further support the impact that quality care and intervention can have on all infants and toddlers, regardless of ability level.

Key Outcomes of Early Intervention

Many of the studies that have been conducted related to EI systems, services, and programs have documented the positive impact of EI on the well-being of infants and toddlers and their families. The Early Childhood Technical Assistance Center reported in 2014 that several intervention programs that have been implemented during the early years have produced important outcomes, such as children developing or acquiring new skills at increased rates. While over 60% of children who exit Part C services at 3 years old continue to qualify for Part B services, the NEILS data show that 32% of children who received EI services no longer qualified for special education services by kindergarten.

Furthermore, Don Bailey and his colleagues (2004) reported that important collaborations among professionals and families are linked to families' enhanced ability to meet their children's needs throughout their lives. Finally, several researchers, such as Steve Barnett (2000) and Don Bailey and colleagues (2005), have described the impact of EI on the broader economy through the decreased need for intensive supports, such as special education services as the child gets older.

Cross-disciplinary research studies also have documented the benefits of early intervention services for infants and toddlers with, or at risk for, disabilities. Discipline-specific studies have

documented the positive impact of a variety of interventions implemented with infants and toddlers diagnosed with a variety of disabilities. For example, Juliann Woods and Amy Wetherby (2003) reported how speech-related interventions have been shown to enhance children's overall communication development. Additionally, Gerald Mahoney and Bridgette Wiggers (2007) found that preparation of social workers can enhance professionals' relationships with families of children with disabilities.

Evidence-Based EI Principles and Practices

The design and implementation of EI services are guided by principles and practices espoused by the federal government through OSEP and various professional organizations, primarily the Division for Early Childhood (DEC) of the Council for Exceptional Children. OSEP's EI principles developed in 2008 focus on seven key concepts designed to provide the field with guidance when working with infants and toddlers and their families. The workgroup that developed these principles identified specific practices related to each principle. These principles have been adopted and adapted by several states, including Virginia and Illinois, to guide the implementation of EI services.

Families and children in EI are served by professionals from a variety of disciplines. Professional organizations such as the American Occupational Therapy Association and the American Speech, Hearing and Language Association offer guidance for delivering EI services specific to their professional discipline.

While there are common themes across the practices from different disciplines, only DEC provides guidance for all professionals who serve infants, toddlers, and preschoolers with disabilities and their families. While DEC's recommended practices target the broad early childhood age spectrum from birth to 5 years old, many practices are applicable to infants and toddlers with or at risk for disabilities and their families. DEC provides guidance to EI programs, professionals, and family members through a list of recommended practices organized by topic areas, including assessment, environment,

family, instruction, interaction, leadership, teaming and collaboration, and transition.

Critical Features of Early Intervention

Several key features set EI services apart from other early childhood services and programs. It is the combination of these critical features that distinguishes EI programs and services for infants and toddlers with or at risk for disabilities and their families from other early childhood services or services for older children.

Family-Centered Practices

The concept of family-centered practices is based on the belief that the family is in the optimal position to support children's developmental needs and the acquisition of new skills, partly because they spend the most time with their children, but also because they have a vested interest in their children's well-being. Family-centered practices enable families to recognize the positive impact they can have on their children and families as a whole. Bonnie Keilty (2010) wrote that research findings document the relationship between families that are functioning in a positive manner and children's growth and developmental progress. According to Don Bailey and his colleagues (2012), family-centered practices include recognizing and utilizing strengths that the family has, providing the family with the opportunity to make informed decisions based on their priorities and concerns, engaging in open and honest communication with the family, being flexible to change services depending on the child's and family's needs, and incorporating a family support system (i.e., extended family and friends) to the extent possible.

Individualized Family Service Plan

The federal law mandates the development of individualized support plans for children and youth with disabilities. For students with disabilities (3 to 21 years old), an individualized education program (IEP) sets the plan to address the individual student's needs, often focusing on educational outcomes. For infants and toddlers, the individualized family

service plan (IFSP) is developed to address supports for both the child and family; it focuses on functional outcomes (e.g., Lin will self-feed during meal times with her family). IFSPs are developed within 45 days of a child's referral to EI services. The family and EI providers meet to discuss the child's strengths and needs, goals the family has for their child, and services that would best meet those needs. While IFSPs may look different from state to state, there are key components that must be included on the plan, including (a) present levels of development; (b) family information including resources, priorities, and concerns; (c) measurable outcomes; (d) EI services that will be provided; (e) the environment in which services will occur; (f) who will be responsible for paying for services; and (g) the plan for transitioning the child from EI to an appropriate educational-based setting on his or her third birthday.

Routines-Based Interventions in the Natural Environments

Another critical feature of EI services is the emphasis on serving the child in his or her natural environment. IDEA defines natural environments as any setting that a child without a disability might routinely participate in or access. Notably, IDEA defines natural environments as home or community-based settings and, therefore, the large majority of eligible children in 2012 received services in the natural environment. However, Lydia Moore and colleagues (2012) stress that natural environments should not be perceived only as a place, but rather as a manner in which services are implemented. Thinking about natural environments in this light further supports the idea of embedding intervention strategies within a family's daily routines. It is not *where* EI services are implemented but rather *how* they are implemented.

A way of ensuring that a family is provided with the necessary tools to support their child's development is to base all interventions around a family's typical daily routines. Although a child may receive one or more hours per week of direct services, it will be up to the family to embed intervention strategies the rest of the time (e.g., work on

communication skills during meal time, dressing, and play time). As Robin McWilliam and colleagues (2009) noted, IFSP outcomes are written to address functional skills; embedding strategies into daily routines where a child will have multiple times a day to practice them has been found to result in positive developmental outcomes.

Transitions

EI services also include planning for the child's transition from EI to the local educational agency (LEA) on his or her third birthday. In 2012, according to the U.S. Department of Education, 66% of children enrolled in EI services were found to be eligible for Part B preschool services. The time surrounding a child's transition can be very overwhelming for the family, therefore structures should be in place to support the family during this time. Examples might include transition support groups, an open house where families visit the "new" school and meet the staff, and classroom visits prior to the child's third birthday. The transition process often begins between 4 and 6 months prior to a child's third birthday in order to ensure that the receiving agency has the most current reports with which to determine eligibility and develop an individualized plan.

Multidisciplinary Collaborations

Within a family-centered model where the family is viewed as the expert on their child, it follows that all members of the IFSP team work together in a collaborative manner to help the family address concerns regarding their child's development. This collaboration requires EI providers to view their role as that of a "coach" or "mentor" versus that of "expert" on what the child and family needs. According to Clare James and Gill Chard (2010), family-centered model also means that the parent role shifts from being viewed as a passive participant to being seen as the agent of change for the child.

While it is important for collaboration to occur between the family and the various EI providers supporting them, it is equally important for

collaboration to occur between the different community-based systems that provide services for infants and toddlers, including medical, mental health, and educational services. Research by Richard Adams and colleagues (2013) has shown that when these systems work together to meet the various needs of families, children demonstrate more positive outcomes in both educational and community-based settings.

Challenges and Future Directions

Mary Beth Bruder (2010) noted that while the field of early intervention has evolved over the last 25 years, it continues to face many challenges that threaten its existence. From the very beginning through today, the Individuals with Disabilities Education Act continues to be underfunded based on federal formula. In fact, the most recent data on federal appropriations reported by Alex Lazara and his colleagues (2014) show a decreasing trend in the last 10 years for Part C/EI services. Despite the increasing numbers of families of infants and toddlers with or at risk for disabilities, who are eligible for EI services, economic and sociopolitical challenges have driven many states to take steps that mean they provide fewer EI services, therefore addressing budget concerns. For example, many states are restricting their criteria for eligibility in an effort to decrease the number of children and families accessing EI services. Additionally, several states are beginning to charge fees for EI services, which impacts access for families and communities with limited economic resources. EI advocates face an uphill battle as state and federal supports for birth to 3 services continue to dwindle.

Scientific advances in early intervention have resulted in the development and validation of state-of-the-art interventions that benefit infants and toddlers and their families. A challenge lies in the translation and implementation of these research findings into the daily practices of EI professionals. At the federal, state, and local levels, the question remains of how best to prepare professionals, at both the preservice and in-service levels, who can implement evidence-based practices and

adapt these practices to meet the unique needs of individual families and the children they serve. The infusion of modern technologies in EI provides promise for more effective ways to deliver EI services for children and families, and for EI professionals to access ongoing training and professional development opportunities (e.g., Communities of Practice, Bug-in-Ear Technology, and online-based training).

While it has only been 25 years since EI was first established, the concerns and issues faced by families and communities have changed dramatically. As such, EI services must adapt to meet contemporary societal issues, such as changing immigration and migration patterns, language and cultural differences, toxic stress, and infant mental health concerns. Additional research is needed to better understand how EI can extend and enhance its underlying mission to alleviate the negative impact these issues pose on the well-being and overall development of infants and toddlers with or at risk for disabilities and their families.

Rosa Milagros Santos and Kimberly Hile

See also Assistive Technology in Early Intervention; Fathers in Early Intervention; Home-Based Early Intervention Practices

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EARLY INTERVENTION, LEGAL BASIS FOR

In the United States, the Early Intervention Program for Infants and Toddlers with Disabilities mandated by the Individuals with Disabilities Education Act (IDEA) was established in 1986. This federal mandate requires each state to establish a state-wide, comprehensive, and coordinated system of early intervention services for infants and toddlers (birth to 36 months) who have or are at risk for developmental delays or disabilities. The purpose of these services is to promote the development of identified children and support their families in addressing their children's learning needs. The effectiveness of early intervention is supported by research on the benefits of early intervention services and on the significance of early experiences on brain development. This entry highlights relevant federal legislation, state requirements, criteria for eligibility, the individual family service plan (IFSP), and types of early intervention services.

Federal Legislation on Early Intervention

In 1986, the amendments to the Education for all Handicapped Act (EHA), Public Law (P.L.) 99-457, expanded preschool services to all 3- to 5-year-olds with disabilities and under Part H provided a 5-year period for states to establish early intervention services for infants and toddlers who have or are at risk for developmental delays or disabilities. In 1990, the reauthorization of EHA, P.L. 101-476, was renamed IDEA. In 1997, IDEA amendments under P.L. 105-17 reauthorized early intervention services under Part C of the Act.

In 2004, P.L. 108-446, the Individuals with Disabilities Education Improvement Act, reauthorized early intervention services with the following changes: (a) the “multidisciplinary” IFSP team should include the parent, service coordinator, and at least one other person from another discipline or profession; (b) a focus on evidence-based intervention practices derived from *scientifically based research*; (c) states are permitted to extend early intervention services from 36 months until a child enters kindergarten; and (d) because supports are required for a child’s transition from Part C to preschool services parents may request that the Part C service coordinator or others be invited to the initial IEP meeting. In 2011, the *Federal Register* published the final regulations for the Early Intervention Program for Infants and Toddlers with Disabilities to reflect changes made in the 2004 amendments.

State Requirements

Each state must establish a comprehensive system of early intervention services through a child find and referral system, and personnel development to promote highly qualified personnel. Each state also must establish procedural safeguards that ensure the timely administrative resolution of parent complaints, confidentiality, and rights of parents to written notice and consent, to determine whether or not they will participate in any early intervention service, and to examine records related to their child and family. The governor must designate a lead agency to administer the

early intervention program and appoint an Interagency Coordinating Council (ICC), including parents of children with disabilities as an advisory group to the lead agency.

Eligibility for Early Intervention Services

Infants and toddlers are eligible for early intervention services if they meet one of these criteria: (a) a developmental delay in one or more areas of development (cognitive, physical, communication, social/emotional, and/or adaptive); or (b) an established risk for a condition, or diagnosed condition, that has a high probability of resulting in a developmental delay (e.g., Down syndrome, cerebral palsy, autism, visual impairment, hearing loss, or multiple disabilities); or (c) a biological or environmental risk such as medical (e.g., prematurity) or home conditions (e.g., parents with disabilities) that may significantly compromise a child’s development if early intervention is not provided.

The Individual Family Service Plan

The IFSP is both a process and a document for providing and coordinating early intervention services to a young child and his or her family. The process facilitates a family’s collaboration with service providers, sharing of information among service providers from various disciplines, identification of early intervention outcomes that are valued by the family, and coordination of services from different service providers and agencies. The IFSP document must include the following:

1. The child’s current levels of physical (fine and gross motor, vision, hearing, and health), cognitive, communication, social or emotional, and adaptive (or self-help) development
2. If the family agrees, information on the family’s concerns, priorities, and resources related to promoting the child’s development
3. Measurable outcomes expected for the child (including preliteracy and language skills as appropriate), criteria for accomplishment, timelines, and procedures for measuring progress

4. Specific early intervention services based on peer-reviewed research, when possible, that will be provided and the frequency, intensity, and methods of delivering them
5. The natural environments (e.g., the home or community settings with typical peers) in which early intervention services will be provided and, if applicable, justification for services that will not be provided in the natural environment
6. The initiation dates and duration of services
7. The name of the service coordinator who is qualified to implement and coordinate the IFSP
8. Steps to be taken to support the child's and family's transition from Part C services

Early Intervention Services

Depending on their needs, young children with disabilities and their families could receive some or all of the following services:

- assistive technology
- audiology
- family training, counseling, and home visits
- health services
- medical services for diagnosis and evaluation
- nursing services
- nutritional services
- occupational therapy
- physical therapy
- psychological services
- service coordination
- sign language and cued language services
- social work services
- special instruction
- speech-language pathology
- transportation to receive early intervention services
- vision services

The variety of possible services, service providers, and agencies involved highlights the need for coordinated early intervention services that involve multiple disciplines and agencies.

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See also Early Childhood Inclusion; Early Childhood Special Education; Early Intervention; Individualized Family Service Plan and Individualized Education Program

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EARLY LITERACY DEVELOPMENT

Early literacy refers to the natural unfolding of a child's ability to talk, listen, write, and interact with books and other sources of print, the capacities of which begin at birth and evolve throughout the early childhood years. Formerly referred to as *emergent literacy*, the term *early literacy* acknowledges that literacy development is a developmental, ongoing process, whereas emergent literacy is now viewed as implying that there is a finite point in time at which literacy begins to emerge. This entry provides information about the relationship between language development and early literacy development, a summary of current best practices in early literacy, and policy recommendations for supporting early literacy development in preschool and kindergarten.

Language and Early Literacy Development

There is a rich and comprehensive relationship between children's language development and their early literacy development. Language provides the

foundation for literacy. Right from birth, infants use facial expressions, sounds, and gestures to communicate their needs. Parents and teachers foster language development when they make frequent eye contact with babies, talk to them, engage in turn-taking conversations as babies begin to coo and babble, and when they sing and read to them. These responsive interactions—grounded in loving relationships with caregivers—stimulate babies’ understanding of how we use language to communicate. Children’s developing ability to communicate using spoken language (in both speaking and listening) simultaneously supports their early literacy development. This is particularly true with regard to providing joyful experiences with books, stories, songs, drawing, and scribble writing.

As infants grow into toddlers, their vocabulary burgeons tremendously. They come to *understand* more and more words while they also begin to communicate their thoughts and desires *verbally*. Parents and caregivers continue to promote language and early literacy development when they actively respond to toddlers. When toddlers begin communicating with words, caring adults extend these verbal approximations. For example, Gabriel says, “Eek-oo,” in a sing-song voice. The parent responds, “Where’s Gabriel? Peek-a-boo! I see you! You were hiding behind the bean bag.”

As children move into the preschool and kindergarten years, their ability to engage with print as listeners and as early readers and writers increases. This growth is highly influenced by the responsive interactions they experience from birth to age 3.

Best Practices in Early Literacy

There are innumerable experiences that parents and teachers can provide to foster children’s early literacy development. The following is a list of some of the most powerful experiences, organized by category and listed in order of developmental stage:

Language Experiences

Copy baby’s sounds and listen to see what sounds he or she makes in response

Narrate routine experiences, such as diapering, dressing, and bathing, describing the action as it is being performed

Name familiar objects in baby’s daily life (toes, fingers, nose, bottle, blanket, pacifier)

Listen to the child; extend the child’s language as he or she begins to talk

Play the Rhyming Game by first saying two words that rhyme and then inviting the child to tell another rhyming word

Say as many words as the adult and child can think of that start with the same sound (toy, tiger, top, tree, Tara, toe)

Reading Experiences

Read together every day

Provide a variety of durable board books for babies to mouth, hold, and practice page-turning

Point out details in illustrations, use different voices

Reread favorite books and invite the child to “read” pages or familiar parts

Print Experiences

Give the child chubby crayons or markers and paper; encourage the child to make marks on paper
Play with chalk

Put photos of family, friends, or favorite items in an album and label each picture; read the picture book

Have the child tell about his or her picture and write down what he or she says; read it together

Read familiar signs while walking or driving, and read print on familiar objects in the home (McDonald’s, STOP, Cheerios)

Have the child write his or her own grocery list at the same time as the parent

Play Experiences

Put foam letters in the bathtub to explore

Play with materials that build small muscle strength and fine motor skills, such as playdough, stringing beads, and finger paints

Play with stuffed animals, dolls, action figures, or puppets to make up or retell stories

Gather props to play out a familiar story

Policy Recommendations

Policy recommendations related to early language and literacy development focus on a number of key issues related to children's future success as readers and writers. All children should have access to early childhood programming with developmentally appropriate literacy components. This includes well-prepared teachers who know how to meet children where they are and provide relationship-based experiences to promote language and literacy development. Programming must include specific attention to meeting the needs of English language learners as well as children of diverse abilities and backgrounds.

Programming should include ways to promote family engagement. Educating families in ways to support children's early literacy development is critical so that children experience a language- and literacy-rich home environment. Funding must be dedicated to supporting early language and literacy development in infants and toddlers, as well as in preschoolers. Early literacy curricula and teaching practices must be evidence-based and integrated across all developmental domains.

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See also Infant and Toddler Programming; Infant-Parent Relationships; Language Development; Literacy; Literacy-Enhanced Props; Prekindergarten

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EARLY NUMBER REPRESENTATION DEVELOPMENT

The focus of this entry is the development of children's sense of relative magnitude involving symbolic (verbal or written) numbers. In order to better understand young children's perspective on relative magnitude, consider the following exchange by a 5.5-year-old girl, Arianne, with her father (the author) on his 42nd birthday:

"How old are you today, Daddy?"

"Forty-two."

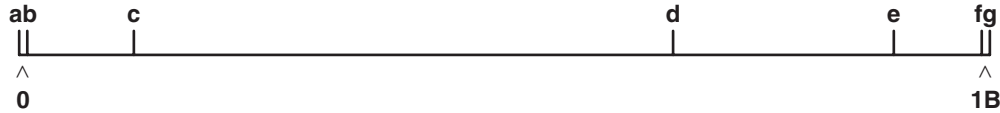
"Is that close to a hundred, Daddy?"

Arianne's follow-up question illustrates an important phenomenon in this development of number knowledge. For the 5.5-year-old, the difference in the magnitude of familiar numbers such as "four" and "ten" was clear—"ten" and "four" represented clearly distinct magnitudes, the former was much more than the latter, and psychologically "ten" was far apart from "four." For Arianne, though, the difference in the magnitude of unfamiliar numbers such as "forty-two" and a "hundred" was unclear. For her, "a hundred" was a big number and "forty-two" also represented "many" or "a lot" and was, thus, psychologically close to "a hundred." As children's familiarity with numbers up to 100 grows, they realize that there is a big difference being 42 and 100 years old—that, for instance, 42 is not even halfway to 100!

In order to better understand Arianne's perspective, consider the problem in Figure 1.

Figure 1 A Million, a Billion—What's the Difference?

If 0 = zero and 1B = a billion and **a** < 1/100, **b** = 1/100, **c** = 10/100, **d** = 50/100, **e** = 90/100, **f** = 99/100, and **g** > 99/100, what letter best represents the position that a million would occupy on the number line below?



Although most adults know that a billion is more than a million, they have little sense of how much bigger a billion is than a million. That is, most adults do not have a good sense of the relative size of a million and a billion. As a result, many locate a million at *d* or—close to a billion—at *e*, *f*, or even *g* on the number line. For most adults, it is surprising that the solution to the problem is choice *a*. In fact, a million is merely 1/1,000th of a billion or, put differently, a billion is 1,000 times larger than a million!

Gradual and Continual Expansion of a Sense of Relative Magnitude

The vignette of Arianne and the problem depicted in Figure 1 illustrate that an understanding of the relative magnitude of numbers develops as familiarity with larger and larger numbers grows. For many 2-year-olds, just learning the meaning of number words, “two” may initially refer simply to any plurality. For example, Alexis Palmer and Art Baroody (2011) reported that, between 23 and 25 months of age, Blake spontaneously labeled collections of more than one as “many” and, at 26 months, used “two” for the same purpose. Over the next 2 months, his precision in using “two” grew to 50% accuracy and then more than 90% accuracy—at which point other number words serve to indicate “many.” Shea, a 3-year-old in a public school preschool, could re-create a collection of one or two items that was still visible or previously shown and then hidden. However, with larger collections of three or four—both of which she labeled “three” or “a bunch”—she regularly put out four or more objects. Indeed, many children use

“two” and then “three” to indicate “many” instead of a specific quantity.

Learning the counting sequence lays the foundation for greatly expanding number sense beyond the “intuitive numbers”—the small collections that children can learn to subitize (recognize and label with an appropriate numeral without counting). By 4 years of age, Barbara Sarnecka and Susan Carey (2008) observed that children have learned that the number words in the counting sequence represent different and specific quantities of increasingly larger size—the “increasing magnitude” concept. This permits children to recognize, for example, that “nine” is more than “three” because “nine” comes (much) later in the counting sequence. In time, as their familiarity with the counting sequence grows and they learn to immediately recognize number-after relations such as nine comes after eight, they can fluently specify that “nine” is more than its immediate counting predecessor “eight.”

Conceptual Basis of an Exact Representation of Relative Magnitude: Successor Concept

Although the increasing magnitude concept is an important development and permits children to order number words or numerals by relative size, it does not necessarily guarantee that they understand how much more, for instance, “nine” is than “eight”—specifically that “nine” is exactly one more than “eight.” Véronique Izard, Pierre Pica, Elizabeth Spelke, and Stanislas Dehaene (2008) hypothesized that the *successor function* or *successor concept* is hypothesized to be one prerequisite

Figure 2 Conventional Number-to-Point-on-a-Number-Line (N-P) Task

Instructions: "If this is where 0 goes (pointing) and this is where 10 goes (pointing), where does 7 go?"



of the concept of exact natural numbers needed to operate on and compare quantities. As illustrated by Kindergarten Counting and Cardinal Goal 4c of the Common Core State Standards (Council of Chief State School Officers, 2010), this concept entails "[understanding] that each successive number name refers to a quantity that is exactly one larger" than its predecessor in the counting sequence. Theoretically, the construction of the successor concept enables children to re-represent the count sequence as an integer sequence— n , $n + 1$, $[n + 1] + 1 \dots$ (e.g., 1 , $1 + 1$ or 2 , $2 + 1$ or $3 \dots$).

The Successor Concept and Development of a Linear Representation of Number

Lauren Resnick (1983) termed children's representation of the relative magnitude of numbers—the relations among numbers of different size—a "mental number line," which involved progressively larger numbers when moving from left to right. Not coincidentally, researchers interested in how children represent relative magnitude have often used a number-line task. The "conventional" task used with preschoolers involves giving them a number such as 7 and asking them to point where it should go on a number line with end points marked with 0 and 10. This number-to-a-point-on-a-number-line (N-P) task is illustrated in Figure 2. (With older students, a 1-to-100 or a 1-to-1,000 number line is used.)

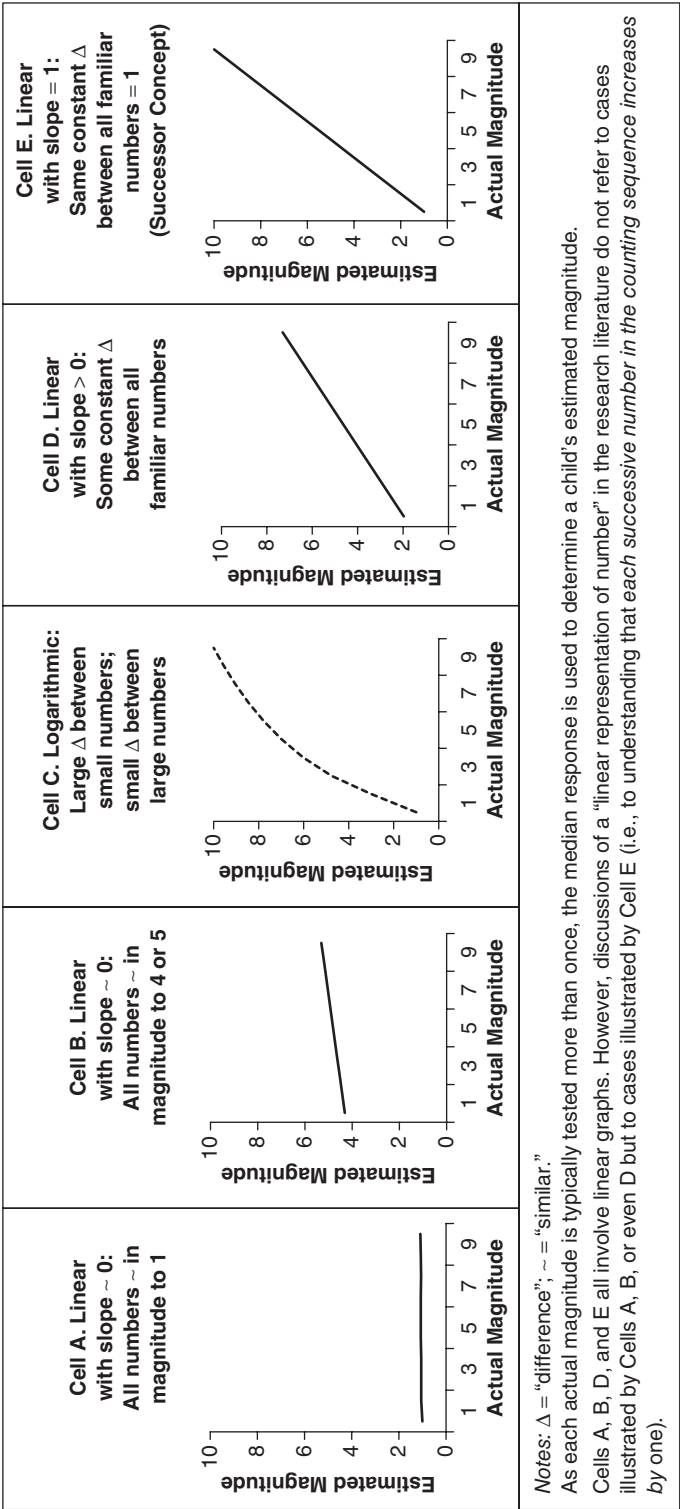
A child who views all numbers from "one" to "ten" as having the same magnitude would place all numbers at about the same position on the number line shown in Figure 2. For example, in Figure 3, Cell A illustrates the result of a child who

always pointed toward the left-hand endpoint on the number line (about 1) regardless of the number presented. Note that the graph of the results in Cell A is basically a flat horizontal line (a straight line with a slope of essentially 0) with a y -intercept of about 1. Cell B of Figure 3 represents a case where a child always pointed to roughly the middle of the number line regardless of number presented.

Cell C of Figure 3 represents the results of a child who had begun the process of representing the relative magnitudes of numbers. Specifically, the child viewed the small numbers "one" to "four" as clearly different in magnitude and placed these numbers in roughly their correct position on the number line but saw larger numbers—especially 8, 9, and 10—as less distinct and bunched these numbers together. Put differently, the estimated difference between 5 and 6 is smaller than that between 2 and 3 and the estimated difference between 8 and 9 is smaller yet. When graphed, the responses form a curved line that can be represented by a logarithmic function (see, e.g., Cell C of Figure 3).

In time, children recognize that *each successive number increases by a constant amount* (e.g., that the difference between 5 and 6 or 8 and 9 is the same as that between 2 and 3). Theoretically, a child who understands this concept but who has not yet constructed the successor concept (i.e., does not realize that the constant difference was 1) would produce results on the N-P number line task that would be linear (a straight line) with slope of more than 0 and a non-0 y -intercept, such as that shown in Cell D of Figure 3. The graphs of children who understand the successor concept would look similar, except that the slope would be 1 (each successive

Figure 3 Different Representations of Numbers (Ns) 1–10



number is one larger than its predecessor) and the y-intercept would be 1 (because 1 has an estimated magnitude of 1 unit; see Cell E of Figure 3).

Research by Ilaria Berteletti, Daniela Lucangeli, Manuela Piazza, Stanislas Dehaene, and Marco Zorzi (2010) and Robert Siegler and colleagues (2009) has found evidence of a shift from a flat representation (similar to Cell B in Figure 3) or a *logarithmic representation of number* (similar to Cell C in Figure 3) to a more linear one (similar to Cell D or even Cell E) among preschoolers, primary-grade students, or both. Moreover, in a cross-sectional study involving 4- to 6-year-olds, Erin Reid, Art Baroody, and David Purpura (2011, 2015) found that those who understood the successor concept had significantly better linear representations.

Importance of the Successor Concept and a Linear Number Representation

Constructing the successor concept and, by extension, a linear number representation is critical to developing number sense (e.g., understanding number relations and estimating relative size) and provides a solid foundation for school mathematics. For example, Julie Booth and Robert Siegler (2008) found that a more accurate representation of number is significantly associated with better understanding of operations on numbers in particular and higher levels of academic achievement in general. Conversely, David Geary, Mary Hoard, Lara Nugent, and Jennifer Byrd-Craven (2008) found that children with a mathematics learning disability, or those who have low mathematics achievement, have been found to have less accurate representations than typically achieving students. Elizabeth Gunderson, Gerardo Ramirez, Sian Beilock, and Susan Levine (2012), for example, found spatial skills, a linear representation, and approximate symbolic calculation are significantly inter-related.

Indeed, as illustrated by the learning progression in Table 3 of the 2013 National Center for Education Evaluation and Regional Assistance (NCEE) practice guide for teaching early mathematics (Frye et al., 2013, p. 13), the big idea of the

successor concept and its by-product (a linear representation) may be critical for the development of many aspects of early numeracy that form the foundation for later success in school mathematics and everyday life. Consider the following examples:

- The transformation of the counting sequence into an integer sequence may be children's first introduction to *growing number patterns*. Insight that the counting sequence embodies a constant +1 function is necessary to comprehend and recognize other, more sophisticated growing patterns such as the even numbers (+2 function starting with 2), the odd numbers or the "growing L" (
 $\begin{smallmatrix} \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot \end{smallmatrix}$
) pattern (+2 function starting at 1), other skip counts such as counting by fives "5, 10, 15 . ." (constant of +5), or doubling such as 1, 2, 4, 8, 16 . . . ($\times 2$ function).
- Knowledge of the successor concept and an integer representation would seem to be developmental prerequisites for *informal mathematical induction*—making a generalization about a reoccurring pattern (recursive property) for successive integers, a conclusion that is also necessarily true of all subsequent integers. Such reasoning can lead a child to conclude, for instance, that the counting or natural numbers are unending or infinite.
- The successor concept seems essential for extending an understanding of addition beyond small numbers, and (informal mathematical) induction can be a key bridge between small numbers, which can be subitized (immediately recognized without counting and labeled with a number word), and larger numbers, which must be counted (at least in theory) to quantify. The successor concept and informal mathematical induction may enable children to use concrete experiences with adding 1 to collections of 1 to 3 (e.g., seeing that two items and *one more item* is three items), known small n number-after relations ("three" immediately follows "two" in the counting sequence), and known large n number-after relations (e.g., "eight" follows "seven") to deduce the general *number-after rule for adding 1*: the sum of any number n and one more is the number after n in the counting

sequence (e.g., recognizing that the sum of $7 + 1$ is the number after *seven* when we count: “8”). Fluency with the *number-after rule for adding 1*, in turn, serves as a scaffold for inventing advanced mental addition strategies, including the “counting-on” strategy to add and reasoning strategies that transform more difficult unknown combinations into easier, known facts. For instance, the near-doubles reasoning strategy involves solving the relatively difficult and unknown combination $5 + 4$ by logically thinking: $5 + 4$ is 1 more than (the easy) fact $4 + 4$ (because 5 is 1 more than 4); so if $4 + 4 = 8$, then $5 + 4$ must be 1 more than 8; therefore (using the known number-after rule for adding 1) $5 + 4$ is 9. Similarly, the make-ten strategy entails solving the relatively difficult unknown $7 + 9$ combination by using the knowledge of easier add-with-10 combinations: If $7 = 6 + 1$, (using the known number-after rule for adding 1) $1 + 9 = 10$, and $6 + 10 = 16$ (because any single-digit number added to 10 is the teen version of that number), then $9 + 7 = 9 + [1 + 6] = [9 + 1] + 6 = 10 + 6 = 16$). Nancy Jordan, David Kaplan, Chaitanya Ramineni, and Maria Locuniak (2009) found that mental addition, in turn, may be an important bridge between informal and formal mathematics and is predictive of later school mathematics achievement.

Early Intervention Research

The importance of a linear representation has motivated considerable recent interest in developing and evaluating interventions to promote this key aspect of number sense among preschoolers, particularly those at risk for academic failure. Such research revealed that playing linear-numbered board games with equal-size spaces that are numbered sequentially (The Great Race) significantly improved middle-class and at-risk preschoolers’ linear representation of the numbers 1 to 9 and other key aspects of early numeracy: *verbal counting* to 10, *number comparisons* (e.g., “Which is more—five cookies or four cookies?”), *numeral identification* 1 to 10, and arithmetic problem solving. For example, pretesting in Geetha Ramani and Robert Siegler’s (2008) study revealed that, on average, their participants treated the

numbers from 1 to 10 as having the same magnitude (4.5). Specifically, pretest results were linear with a nearly flat slope (similar to the graph depicted in Cell B of Figure 3 with a y-intercept of between 4 and 5). On the immediate and delayed posttests, participants who received the experimental (linear number board) training exhibited improvement (some constant differences among numbers as shown in Cell D of Figure 3), whereas participants in the control condition continued to exhibit a nearly flat slope (as shown in Cell B of Figure 3). Ramani and Siegler concluded that playing a linear board game can help children improve their representation of the counting sequence and other important aspects of number knowledge.

Making Sense of the Research

The results of existing research may not be as straightforward or clear as Ramani and Siegler’s (2008) previously stated conclusion suggest. There are at least three reasons to suspect that the conventional N-P task does not accurately measure a change in young children’s representation of the counting sequence.

1. *A number-line task may be inconsistent with children’s informal view of numbers.* Young children’s informal concept of number and representation of the counting sequence is probably based on their experience with determining the total number (cardinal value) of discrete items in a collection. That is, it is likely grounded in a discrete-quantity view of number and what Karen Fuson (1992) called a *cardinal meaning of number*. Number lines, however, represent linear extent—a continuous quantity—and, thus, embody what Fuson (1992) called a *measurement meaning of number*. Successfully indicating relative magnitude of a number on a number line would seem to require coordinating a cardinal and measurement meaning or flexibly switching between the two. A measurement meaning of number would seem to entail constructing a concept of measurement in general and a concept of linear units in particular—knowledge that typically develops later than children’s informal

understanding of numbers based on collections of discrete items. Such knowledge would enable children to devise one successful strategy for the N-P task—iteratively applying a unit of length. For example, to identify the location of 4 on a 0 to 10 number line, a child could partition the number line into 10 equal segments (units) and count off the first four. However, many children struggle to understand the process of measuring length well into elementary school. For example, in a 2010 study, Geoffrey Saxe and colleagues found that even fifth graders struggled with number line-based problems that required the application of a concept of linear unit. For example, shown a number line with 8 and 10 marked and labeled, students located 11 at the position for 12 (i.e., they incorrectly considered the distance between 8 and 10 as one unit).

2. *The conventional number-line task may tap other relatively advanced number knowledge.* Alternatively, Hilary Barth and Annie Paladino (2011) and Emily Slusser, Rachel Santiago, and Hilary Barth (2013) argued that successfully indicating relative magnitude on a number line could be achieved reasoning proportionally. For instance, to identify the location of 4 on a 0 to 10 number line, a child could reason that 4 is $4/10$ ths or $2/5$ ths—somewhat less than half of the way between 0 and 10. Regardless of strategy chosen, a conventional N-P task, which uses 0 as the left endpoint, requires children to understand a concept of zero, which—as research by Laura Bofferding (2014) indicates—develops relatively late.

3. *The conventional number-line task may be confusing to less developmentally advanced children and prompt the use of response biases.* For the reasons noted in Points 1 and 2, young children, particularly those from low-income families or otherwise at risk for mathematical learning difficulties, may be confused by the conventional N-P task. As a result, they may be unsure where on the number line to point and may resort to a response bias. As the target number is shown above the midpoint of the number line, some may seize on a “midpoint response bias”—consistently

point to the middle of the number line as their estimated magnitude, regardless of the numeral shown (actual magnitude).

Consistent with Point 1, research indicates that estimating the magnitude of discrete quantities (collections of dots or numerals) “is based on different processing strategies and follow[s] different developmental trajectories” than that of a continuous quantity such as area (Sella, Berteletti, Lucangeli, & Zorzi, 2015, p. 758). Dale Cohen and Barbara Sarnecka (2014) compared 3.5- to 8-year-olds’ performance on the conventional bounded N-P task and an unbounded version and concluded that “performance on the traditional, bounded number-line task likely reflect the growth of task-specific measurement skills, rather than changes in the child’s understanding of” the cardinal number sequence (p. 1640).

Consistent with Points 1 and 2, research further indicates that the conventional N-P task does, indeed, require knowledge of concepts and skills that go well beyond understanding that each successive cardinal number in the counting sequence is one more than its predecessor, is confusing, or otherwise underestimates knowledge of the successor concept. In a 2010 study, Berteletti and colleagues used an N-P task with the more familiar number 1 as the left endpoint. In two experiments with separate samples of 3.5- to 6.5-year-olds, children’s accuracy was better than observed in studies using the conventional task. Using a counterbalanced between and within subject design, Reid and colleagues (2015) found that 4- and 5-year-olds performed significantly better on a “user-friendly” version than on the conventional number-line task. The former task used 1 as the left endpoint and a hopping-along-a-trail analogy to relate the number line to a familiar discrete quantity situation. Moreover, children performed worse on both number-line estimation tasks than on a task that more directly gauged children’s knowledge of the successor concept.

Consistent with Point 3, a mid-point response bias might account for why Ramani and Siegler’s 2008 and 2011 pretest results and their controls’

posttest results were neither logarithmic nor linear with a slope appreciably larger than zero but a nearly flat line with an intercept of between four and five (as illustrated in Cell B of Figure 2). In contrast, an examination of the fit statistics in the 2010 study by Berteletti and colleagues indicated that their participants, who saw a comprehensible 1 to 10 number line *and* the target number in the upper left corner, were not prone to a response bias on a non-conventional task. Moreover, in Reid and colleagues' (2011) user-friendly task, which involved the tester reading a target number to a participant, 4- and 5-year-olds were less prone to mark their estimates in the middle of the number line or use a mid-point response bias on the modified version than on the conventional N-P task (7% versus 37% of response biases, respectively). In addition, in their 2015 study, Reid and colleagues found that response biases accounted for 18% of all their 4- and 5-year-old participants' responses, and the most common response bias involved marking estimates at the endpoints of the number line, primarily on the left endpoint (as shown in Cell A of Figure 2).

The impact of training that involves playing a linear board game (The Great Race) on transfer to number tasks is mixed at best for three reasons.

1. Ramani and Siegler (2008) found significant transfer to counting, numeral identification, and comparing numbers when the comparison group received non-mathematical (color) training. However, these results are ambiguous at best. Although the pretest–posttest gains for The Great Race group were significant and those for the comparison group were not, it does not statistically follow that The Great Race group outperformed the comparison because the relative gains were calculated separately. That is, such indirect comparisons are not a statistically acceptable method for determining which group is “higher.”

2. Significant results do not necessarily indicate practical significance. For example, the significant result for counting found by Ramani and Siegler (2008) is the result of The Great Race group learning about one more counting word. This small gain

was achieved with 1.33 hours of individual training, and it is unclear what component(s) actually had the impact and if other number sense training might be even more effective.

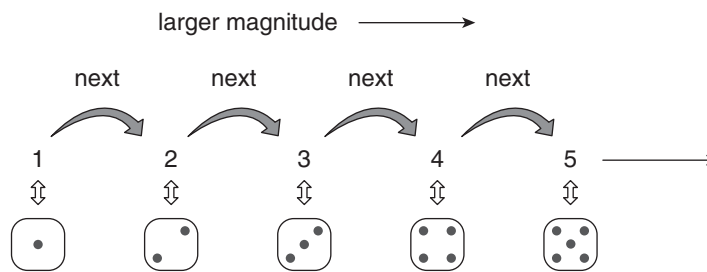
3. There has been little evidence of transfer in subsequent training experiments, including those in which the comparison training focused on number sense. Siegler and Ramani (2008 [linear track versus color control]; 2009 [linear or a circular track versus number sense control]) and Ramani and Siegler (2011 [linear or a circular track versus number sense control]) found that training with The Great Race did not produce significantly greater gains in counting and numeral identification. Only The Great Race intervention in Siegler and Ramani (2009 [linear track versus number sense control]) produced significant improvement by the linear-track group in comparing numbers.

In brief, conclusions about the impact of playing The Great Race on the linearity of young children's representation of the cardinal counting sequence and their development of cardinal number knowledge await further research.

Conclusions and Future Directions

Resnick's (1983) use of the term “mental number line” to describe preschoolers' mental representation of (cardinal) counting sequence and key numerical relations it can embody is unfortunate. As Figure 4 illustrates, what Resnick was really describing was a “mental number list”—a series of the natural or counting numbers (1, 2, 3 . . .) order by magnitude. Although similar to a number line, number lists are—as Douglas Frye and colleagues (2013) noted—developmentally more appropriate for young children, because they better fit young children's informal (cardinal) view of number.

A number of unresolved issues remain. Francesco Sella and colleagues (2015) attributed their participants' ability to estimate the relative magnitude of continuous quantities successfully on a number line to their ability to engage in proportional reasoning—which contradicts Barth and

Figure 4 Resnick's Mental Number Line

Source: Adapted from Figure 3.1, *The Mental Number Line*, p. 110, in Resnick, L. B. (1983). *A developmental theory of number understanding*. In H. P. Ginsburg (Ed.), *The development of mathematical thinking* (pp. 110–151). New York, NY: Academic Press.

Paladino (2011) and Slusser and colleagues' (2013) explanation for why young children fail to do so with numbers. Given the difficulty elementary children have with multiplicative reasoning—a key basis for proportional reasoning with numbers—the explanation of Sella and colleagues needs to be investigated. One possibility is that their participants used an informal and inexact form of proportional reasoning that is not based on multiplicative reasoning. Other issues that need to be explored are: What is the developmental relation between the successor concept and a linear representation of cardinal numbers? How can instruction effectively promote each? When and how do children connect a linear mapping of cardinal numbers (discrete quantities) and a linear mapping for numbers representing a measurement meaning (continuous quantities)?

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See also Approaches to Early Mathematics Instruction;
Constructivism; Constructivist Curriculum

Further Readings

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ECONOMIC DIFFERENCES IN PLAY

Socioeconomic status (SES) is a topic of great interest to those who study early childhood education. With globalization and increased diversity within societies, economic and social inequalities have worsened, making poverty a leading global problem. Using data on stunted growth in early childhood and absolute poverty, a 2007 article in *The Lancet* estimated that 200 million children under 5 years old around the world are not fulfilling their full developmental potential. The ecological systems model developed by Urie Bronfenbrenner and Pamela A. Morris illustrates that the child is within the context of his or her family and community, and influenced by broader cultural systems that maintain the social values the child will internalize. This makes the lives of children from low-income families unpredictable and challenging.

There are two chief perspectives on the reasons for differences seen among children with lower

SES status and their better-off peers. The first is that these differences are a result of a lack of financial resources. Families with lower income have less access to health care, nutritious meals, enriched home environments, and high-quality child care settings. Another explanation is that these differences result from not only a lack of money, but parental characteristics that are also associated with poverty. Low-income parents tend to have less education, higher rates of single and teen parenthood, and poorer health.

The research on childhood poverty rarely considers the impact childhood poverty has on early childhood play. A few studies related to sociodramatic play have examined socioeconomic differences in children's play. Sociodramatic play, in particular, contributes to children's overall cognitive, social, creative, and language development. In seminal play research, Sara Smilansky analyzed two groups of Israeli children aged 3 to 6 from different socioeconomic backgrounds. One group was of European descent and was identified as middle class; the second group of North African parentage was categorized as lower class. Smilansky identified critical components of sociodramatic play: (a) role-playing, (b) make believe, (c) social interaction, (d) verbalization, and (e) persistence. She found that among the lower-class children there was less sociodramatic play. Smilansky proposed adults target these play components for intervention. Results similar to Smilansky were reported with children in Brazil by Yumi Gosso, Maria de Lima Salum Morais, and Emma Otta in 2007. These authors studied pretend play of different cultural and socioeconomic groups and found children from high- and middle-income groups engaged in more pretending than other groups.

Contrary to these studies, research conducted in 2006 by Sally Dyer and Giovanni Moneta did not find any social class differences in pretend play with British children 3 to 5 years of age. The authors used Mildred Parten's categories of parallel, associative, and cooperative play in low-income and high-income nursery schools. Similarly, in an earlier study in the United States, Lisa Weinberger and Prentice Starkey compared the

play behaviors of African American 4-year-olds in a Head Start setting. The play was categorized into cognitive play types of functional, constructive, and pretend play. The authors found that the children engaged in high-quality pretend play with respect to object use and number of participants involved in play scenarios.

The research is in disagreement as to whether there are economic differences in the play of children. There are several factors that account for the inconsistencies in research findings on play and social class differences. First, the research defining social class and play has not been consistently defined. Some studies use variables related to financial status (e.g., free and reduced-price lunch, family income) others use parental characteristics (e.g., education, single parenting). Another factor related to inconsistent findings may be the result of culturally insensitive research methods. It is important that play assessments are provided in the child's home language and tested by an examiner who speaks the child's native language.

Research related to play and SES needs to employ a community-level SES measurement that relates to the ecological systems approach developed by Bronfenbrenner and Morris. The neighborhood in which a child resides is associated with his or her health and level of academic readiness for kindergarten. Different neighborhoods also have different racial and ethnic compositions and levels of residential mobility. The Early Development Instrument (EDI) is a population-based measure of children's development. Lynn Cohen and Dana Friedman reported a study in 2015 using the EDI assessment to measure kindergarten readiness, but the results could be used to research pretend play in high- and low-income settings within a given community.

Regardless of whether there are differences in social play between affluent and poor children, it is important to view children's play as a resource to face adverse and challenging issues. The late Brian Sutton-Smith proposed that during play, children can experience primary emotions without losing control. Sutton-Smith considers play as dialogue for children to express and control emotions such

as anger-strategy, fear-courage, shock-resilience, disgust-imagination, loneliness-bonding, and mania-charisma. Regardless of affluence or poverty, children face challenges such as separation and loss, family tensions, violent experiences, and unsupportive environments. Play is a healing experience for children facing emotional challenges as they mediate their emotions and experience self-regulation of attention and acting-out behaviors.

On a final note, it is important that early childhood educators and researchers expand and deepen play theory to challenge, destabilize, and harness the potential of multiple perspectives of contemporary thinking about play. Developmental theories dominate the research: Most studies rely on Jean Piaget's cognitive developmental theory and Lev Vygotsky's sociocultural approach. When examining SES and play, researchers need to broaden their frameworks to include an ecological community model to better understand the complexity of poverty.

Lynn E. Cohen

See also Bioecological Theory; Cultural Variations in Play; Play, Benefits of; Play and Early Childhood Education; Poverty Effects; Sociodramatic Play and Sara Smilansky

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ECONOMIC STATUS AND GEOGRAPHIC INFLUENCES ON DEVELOPMENT AND LEARNING

Children actively engage the people and the objects resident in the places they inhabit. But what children do and what it means for long-term development depend on what those places afford by way of opportunities and challenges. This entry focuses on economic and geographic factors that help determine those opportunities and challenges, with particular attention to how they promote or pose risks for children's development and learning.

Young children have limited capacity to determine what their surroundings afford by way of supports for productive engagement and positive benefit. Much depends on what caregivers bring to the mix. However, what children derive from their surroundings is not solely a function of the human and social capital connected with caregivers. Bioecological theories speak to the wide diversity of conditions that have a bearing on what children experience both in and through time. Useful in this regard are two broad concepts: (1) there are both proximal (microsystem) and distal (macrosystem, mesosystem, exosystem) factors that offer opportunities or pose risks to children's development, and

(2) particular resources and risk conditions can operate through a multiplicity of interconnected processes to influence developmental course.

Household Socioeconomic Conditions

There is broad consensus that access to human, financial, and social capital connected to family socioeconomic status (SES) is important for children's development. Although there are challenges as regards how best to measure SES, there is evidence that constantly living in poverty has negative implications for health, competence, and adaptive functioning, with research showing that the effects begin prior to birth. With advances in biological assessments, it has become increasingly clear that adversities connected to low SES become biologically embedded and can even extend to subsequent generations.

Health

Poor children are more likely to experience a wide variety of health problems beginning in utero. They are more likely to be born prematurely, at low birth weight, with asphyxia, a birth defect, a disability, fetal alcohol syndrome, and AIDS. After birth, low-SES children are more likely to suffer injuries and to die, and they are more likely to manifest problems with neurobehavioral development. During childhood, SES is implicated in many diseases, including asthma and respiratory illnesses. Such problems can result from living in poor housing conditions. When homes are poorly constructed or dilapidated, children are at increased risk of disease exposure from rats, roaches, and mosquitoes. Low SES is also associated with an increased risk of dental caries, high blood lead, iron deficiency, wasting, stunting, obesity, hyperactivity, and sensory impairment. When low-SES children experience health problems, the consequences are often more severe. They are more likely to suffer health complications and to die from injuries and infections at every age. What accounts for all these health problems among low-SES children (the so-called SES-health gradient)? The studied pathways are numerous and include exposure to disease

pathogens and pollutants; living in crowded, noisy, and dangerous conditions; and inadequate nutrition and health care (including dental care).

In low-income countries, many households do not have sources of clean water or provisions for adequate sanitation, leaving young children at particularly high risk of bacterial and parasitic illnesses. Not having proper facilities to deal with waste contributes to childhood illness and mortality. Finally, some of the effects of low SES on health seem to reflect chronic stress exposure. There is mounting evidence that stress leads to damage in multiple biological systems and that stress exposure early in life may be particularly harmful. By contrast, children from high-SES families tend to get good health care, have access to nutritious foods, and live in circumstances that are less chaotic or dangerous. Consequently, high-SES children tend to be healthier.

Competence

There is also a long history of research documenting relations between household SES and the development of competence. Notable are impacts on language and cognitive processing. There is mounting evidence that growing up in a low-SES environment leads to decrements in neural development. The pathways linking SES to competence development are multiple, and they overlap those implicated in health. As an example, Vonnie McLoyd pointed to high levels of stress and inadequate parental monitoring as vehicles that help explain lower achievement for poor children; there is a deep literature on the adverse consequences for cognitive development that derive from exposure to heavy metals and other teratogens. Far and away the most studied pathways are those involving children's access to various forms of stimulation, as competence development in every domain requires adequate exposure to appropriate forms of materials and social experiences, and careful structuring of those experiences. Engagement in complex communications with others, access to books and toys that encourage exploration and learning, efforts on the part of others to teach particular concepts and skills, and access to enriching out-of-home facilities

(e.g., parks, museums) have all been explicated as means of promoting competence in children. Such experiences also appear to foster motivational tendencies that increase the likelihood children will access opportunities for learning on their own. However, the pathways can be relatively indirect as well; for example, high-SES children are more likely to attend high-quality schools and affiliate with academically competent peers.

Adaptive Behavior

The relation between low SES and maladaptive behavior is well established. Research shows that living in a low-SES home impacts physiological arousal and decreases self-regulatory competence beginning quite early in life. By contrast, high-SES families tend to be better organized and high-SES parents are more likely to engage in behaviors that lead to social competence and a high sense of agency (warmth, responsiveness, good monitoring, encouragement, problem-solving discussions). Living in adversity increases the likelihood that parents will engage in actions that foster maladaptive behavior (e.g., hostility, harsh discipline, inconsistency), and it decreases the likelihood that parents will enact behaviors that promote socioemotional competence. The patterns are consistent with arguments that living in conditions of adversity produce stress for parents, thereby reducing parents' ability to effectively engage offspring. The patterns also link to findings that show that low SES is connected with parental characteristics such as depression and low intelligence, which may contribute to the likelihood of poor adaptive functioning. In effect, some of the connection between SES and child learning and development may be genetically mediated.

Life among the poor is often more chaotic (e.g., noisier, disorganized living conditions, less stable residential and working conditions). The lack of predictability can lead to more family conflict and less family cohesion, poorer parenting, worse health, greater difficulty attending, more off-task behavior, poor school achievement, greater difficulty with self-regulation, and degradation of biological systems because of stress.

Geographic Location

Harry Heft argued that the affordances of the environment are its *functionally significant* properties, considered in relation to a particular individual. Affordances pertain to relations between features of the environment and the capacities and proclivities of humans that encounter them. The exact same physical feature or arrangement of features may provide a different set of opportunities or challenges to different children, depending on age, gender, health status, culture, personal history, or the other features present, including those with whom they interact. Through time these phenomena provide the structure in which development occurs and the ingredients that help determine developmental course.

The overall affordances in a particular setting help determine the kinds of social interactions that occur and the kinds of transactions between people and the objects within the settings. Development in every domain of human functioning requires productive encounters with the social and physical affordances of one's environment. When the geographic areas where children reside do not afford the resources and structures that allow a child to engage intrinsic motivations, they will likely contribute to lower self-regulation and competence, poorer behavioral adjustment, and a sense of alienation. In some geographic locations, children are far less likely to encounter the resources and activities they need to thrive.

There is growing evidence that low levels of human, social, and material capital connected to one's place of residence can have major consequences for well-being, beginning early in the life course. The effects of geography (neighborhood, population density, region, country) on health begin prior to birth. The impacts on mortality and basic growth parameters are well documented, with evidence indicating that such factors as poor nutrition, poor sanitation, limited availability of good health care, and exposure to teratogens are major contributory factors to overall health.

There is also evidence that living in a poor and dangerous neighborhood or a low Human Development Index (HDI) country can negatively

impact cognitive development and academic achievement. In low-HDI countries and in disadvantaged neighborhoods parents engaged in fewer cognitively stimulating activities with their children. There is also some evidence that living in deprived neighborhoods or low-income countries can contribute to poor psychosocial development, with evidence suggesting that impacts on maladaptive behavior may become more pronounced as children age. The mechanisms responsible for increased maladaptive behavior have not been fully characterized, but there is evidence that low community cohesion and low collective efficacy may be implicated. That said, just as individual poverty has co-factors, so does living in a low-income neighborhood (e.g., parents with mental illness or addiction disorders, low-quality schools, encounters with high-risk peers); thus, it can be challenging to determine whether it is neighborhood risk per se that contributes to poor psychosocial outcomes or whether co-factors of neighborhood SES may be the primary influence.

Research suggests that connections between neighborhood (or community) conditions and children's competence and adaptive functioning are likely to be complex. For example, when Sara Anderson, Tama Leventhal, and Véronique Dupéré examined the issue, they found that living in a neighborhood with a concentration of high-SES families provided some protection against internalizing and externalizing problems, but living in a neighborhood with a concentration of poor families did not increase risk of maladaptive behavior. Another one of the difficulties in assessing the impact of neighborhood poverty and dilapidation is that there tends to be a fairly high level of residential mobility, particularly among urban poor. Residential mobility among the poor is associated with a number of other family factors that make children vulnerable; thus, it is hard to disaggregate the negative effects of living in a poor or dangerous neighborhood from the constellation of other risks family members face. Finally, some of the processes that seem to be implicated in neighborhood effects on children's competence also seem operative with respect to their adaptive behavior.

Indeed, Thomas L. McNulty, Paul E. Bellair, and Stephen J. Watts found that verbal competence mediated relations between neighborhood disadvantage and adolescent violence.

Living in a rural area often means that families have to travel longer distances to access various types of services. Data show that rural families in the United States are less likely to have ready availability of center-based child care and preschool. This may partially account for the lower scores on measures of school readiness shown by children living in rural areas; albeit, the latter finding may also reflect that a high percentage of families living in rural areas are poor and that rural parents tend to be less well educated. That said, findings from the National Assessment of Educational Progress in 2011 showed that while fewer rural eighth graders scored "proficient" on the exam than was the case for suburban eighth graders, a higher percentage of rural eighth graders scored proficient than was the case for eighth graders from concentrated urban areas or small towns.

Generally speaking, rural families are less likely to have easy access to health care, particularly specialists important for prenatal care and serious illnesses and injuries. As it happens, mortality rates for infants and young children are higher in rural areas and children with special health care needs are less likely to be seen by a pediatrician. Indeed, it is not unusual for rural parents who have children with a severe disability or a major health care need to relocate to a more populated area where advanced health care services are available. Finally, children living in rural areas where pesticides and herbicides are used to improve crop yield and children living in areas near mines can also be at high risk for exposure to teratogens that lead to health problems.

Conclusion

For decades, evidence has accumulated showing that experiences connected with family socioeconomic status and place of residence can affect children's development. Negative impacts connected with adverse circumstances can begin at conception and continue throughout the life course, with

impacts manifested in many bio-psychological systems. But care must be taken when attributing performance in any domain of human functioning to low SES or living in an affluent neighborhood or “out in the country.” Human environments are complex; it is often the case that access to one type of resource (e.g., material resources in the home) co-occurs with access to others (e.g., a parent who spends time encouraging a child to learn, good schools, competent peers). Likewise, the experience of one form of risk or adversity (e.g., low household income) often co-occurs with other forms of adversity (e.g., parental mental illness or addiction, living in a dangerous neighborhood).

According to general systems theory, several different conditions (be they assets or risk conditions) can lead to the same outcome. Moreover, theories pertaining to both risks and assets stipulate that it is often the accumulation of risks or assets that accounts for particular end states, not the presence of a particular risk or asset. It is also the case that humans are not mere passive participants in their environments. Humans not only actively engage those environments but they increasingly select and produce the environments they encounter. In this regard two things are important to recall. First, children with different skills and propensities will react differently to the same environmental circumstances. Second, children with certain behaviors or characteristics may evoke particular negative responses from their environment, so that what can appear to be a consequence of negative environmental conditions (e.g., poor adaptive functioning) could actually be partially responsible for creating those conditions. The same is true for positive environmental conditions—a more resourceful child might gradually seek experiences and resources that lead long-term to higher personal SES and/or living in an advantaged location.

In sum, there is reciprocal process involved as regards human environments and human development. Economic and geographic conditions matter for children, but how they matter can vary by child and over time. What seems important from the standpoint of policy is that families be afforded reasonable opportunities to access needed resources.

They also need to be afforded protections when they might otherwise be surrounded by a multiplicity of risk conditions. Given that parents can and do take action in behalf of their children, it seems critical that both parents and children be afforded opportunities to get easily digestible information on how to offset risks and take advantage of opportunities. This latter recommendation would seem quite manageable given the current proliferation of means of disseminating information.

Robert H. Bradley

See also At-Risk Families; Attachment and Stress; Family Health; Family Strengths; Family Systems Theories; Healthy Environments for Social-Emotional Development

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EFFECTIVE ADVOCACY PRACTICES

Effective public policy advocacy has many components and takes many forms. This entry gives an overview of effective practices in early childhood education policy advocacy, with examples of advocacy activities and strategies.

Why should early childhood professionals be involved in public policy advocacy? One of the national standards set by the National Association for the Education of Young Children (NAEYC) for the professional preparation of teachers is the ability to “engage in informed advocacy for children and families and the profession” (NAEYC, 2012, p. 40). Public policy touches early childhood education and educators in multiple ways. A combination of federal, state, and local taxpayer dollars provides subsidies to help children in low-income families reduce their cost of child care so that their families can work and they can be safe and learning. Head Start and Early Head Start funds provide nearly a million of the nation’s babies, toddlers, and preschoolers from its lowest-income families a comprehensive approach to healthy development, education, and parent engagement. A variety of public policies help teachers receive professional development and postsecondary education, sometimes linked to compensation rewards. The Child and Adult Care Food Program ensures children have access to healthy meals and snacks, as well as training and visits to their providers. Most states are increasing their financial contributions to free prekindergarten access with better quality standards.

These are just some of the results of effective public policy advocacy over the last 75 years. Yet there is much more to accomplish. In 2014, states continued to have waiting lists in the tens of thousands for child care assistance. Less than 5% of eligible babies and toddlers can enroll in Early Head Start and fewer than half of the eligible Head Start preschoolers can enroll in Head Start preschool programs. Although states are making progress, quality experiences remain elusive for many children. The woefully inadequate compensation of early childhood teachers in community settings makes it difficult to recruit and retain caregiving and teaching staff with the knowledge necessary to help all young children develop the skills that will make them ready for school and a love of lifelong learning.

Being a policy advocate takes many forms: sending e-mail to a government official, visiting legislators at the state capitol, participating in an

advocacy coalition, and posting alerts on social media. The following section discusses some of the key components of effective public advocacy efforts, highlighted with real examples.

Key Components of Effective Public Advocacy

Diverse Advocacy Voices Working Together on Shared Goals and Message

The successes of advocacy rely on multiple players and multiple strategies for short-term and long-term goals. Having a shared vision and shared strategies among those advocates is key to effectiveness. Legislators and agency directors can easily dismiss multiple competing proposals, but the adage that there is strength in numbers holds true in advocacy so long as the numbers of people are using a shared message.

For the most part, public policy advocacy is led by organizations whose primary mission is policy advocacy (e.g., Children's Defense Fund, National Women's Law Center) or as part of a professional association's mission (e.g., NAEYC, National Association of Elementary School Principals). Increasingly in early childhood, the effective route to public policy results requires a mixture of voices from the field and others whose interest in early childhood education is more indirect. When prominent business leaders and economists speak out for more public dollars for high-quality early childhood education, they bring several important aspects to the shared advocacy: They may have name recognition with policy makers, they are seen as having less self-interest in the issue, and they can bring media attention.

Examples

Fight Crime: Invest in Kids is an advocacy organization composed of sheriffs and other law enforcement personnel who lobby and hold press conferences in support of a greater public investment in high-quality child care, Head Start, preschool, and voluntary home visiting programs. They do not derive a direct benefit from increased

funds for early childhood program access and quality, but they see an important indirect benefit to their work by reductions in crime as demonstrated by studies of high-quality early childhood program access, such as the longitudinal studies of children who participated in the Abecedarian and Perry Preschool programs.

By bringing the respected voices of law enforcement officials together with the traditional voices of early childhood practitioners and researchers, they have a more powerful impact. Policy makers at the federal, state, and local levels often cite the visits and press releases from Fight Crime: Invest in Kids representing law enforcement officers and the Committee for Economic Development representing business leaders as among the catalysts of their interest and support for greater investments in early childhood education.

Understanding Context and Maximizing Opportunity

There is much work to do to achieve to a society with equity of opportunity for all children. Not everything can be tackled at once nationally or locally. Public policy exists in a political, social, and economic tapestry, whether the goal is scaling up a high-quality, state-funded prekindergarten, changing child care subsidy policies, or designing a comprehensive early childhood system.

At the federal level, there are regular cycles of reauthorizations—reviews and revisions to existing laws such as Head Start or the Child Care and Development Block Grant. Policy makers have different responsibilities: the executive branch (the president and agencies, governor and state agencies) can initiate policies and implement policy directives and programs created by the legislative branch (Congress, state legislature). Policy makers also vary in their political ideologies, beliefs, and allegiances.

Sometimes there is a social dynamic that provides a strong foundation for moving an early childhood policy agenda. This can be a larger issue such as welfare reform requiring work or education reform that makes people consider how children are prepared for success in school. Being attuned to

and maximizing the context of social change that can positively or negatively impact policy goals is important.

Example: In the 1980s, women were going to work in numbers not seen since World War II. The women's movement opened up opportunities for women to have careers, and many took advantage of this social shift. To be able to work and to pursue a career outside of the home, women of all incomes needed child care. For the many low-income women who had been working to support their families, they needed not only to find decent quality programs but help to pay for them. The issue was so prevalent in the media that more than 100 pieces of legislation were introduced in Congress. Child care advocates established a formal coalition that worked to produce what became the Child Care and Development Block Grant, which now helps 1.4 million children a month but, unfortunately, only 17% of the eligible children.

Both Data and Personal Stories Matter

"Show me the evidence"—that's what many policy makers tell advocates. Data on access and quality in a policy maker's district or state helps make the case for scaling up successful programs. The National Women's Law Center each year puts out state-by-state updates on child care subsidy policies. The KidsCount Data book, the National Center for Children in Poverty, and the National Institute for Early Education Research annually publish state profiles on a range of child well-being indicators, including early childhood education. State-level advocates also publish information on the impact of policies. Some data come from polls of the public's desire for policy action. The First Five Years Fund conducted a national poll in 2013, repeated in 2014 and in 2015, that showed overwhelming bipartisan support for greater public investment in early childhood education, even if it meant a short-term increase in the deficit or new targeted taxes. Advocates then used the poll information to show policy makers that their constituents would favor these actions.

Data are important, but the personal stories of families and providers are also important. At hearings and briefings, advocates often bring both the research and data experts and a parent or program director to paint a picture of how the policies impact children and families and the ability to provide them with quality experiences. Often, these are the things that the legislators and their staff remember most vividly and that compel them to action.

Examples: The National Institute for Early Education Research (NIEER) was created as part of the Pew Charitable Trusts' 10-year, \$100 million campaign to advance high-quality prekindergarten. NIEER releases annual profiles of states' progress to expand high-quality prekindergarten. The National Women's Law Center issues annually state-by-state information on child care subsidy policies, such as waiting lists and reimbursements rates, that are also used by state and national advocates to urge greater investments in child care for low-income families. Policy makers like having data about children, families, and programs in their states and localities to inform their decisions, but they also like the personal stories that explain how the public investments make a difference and the gaps that remain unresolved. For example, in 2014, Mayor Angel Taveras of Providence, Rhode Island, testified on the Strong Start bill before a U.S. Senate Committee and talked about his personal story as a child who had participated in Head Start and the positive changes the program made for his school and life success.

Early Childhood Professionals and the Public Raising Their Collective Voices

The legislature is not always an advocate's first choice for advancing positive change. Some advocates turn to state citizen ballot initiatives to create a funding stream and policy because the state legislature is deadlocked due to partisan strife or the legislators have not recognized the rising public will for an issue. Ballot initiatives are costly, but when there is known public support for an issue and a recalcitrant legislature or governor, it can be money

well spent. Like other types of issue advocacy campaigns and electoral advocacy activities, its success depends on well-organized advocates following a well-defined strategy and disciplined use of messages with the voters. NAEYC offers a way for anyone—members, others working in the field, and the general public—to be a grassroots advocate. Anyone can sign up for NAEYC’s free Children’s Champions updates and alerts to contact the U.S. Congress using only his or her ZIP code. NAEYC provides sample messages and instructions. For its affiliate leaders, NAEYC provides a 2-day public policy conference in Washington, D.C., that includes a day of senior-level briefings and a day of visits to Congressional offices.

Example: After years of incremental or no progress, a group of community leaders convened in Arizona to draft and propose a ballot initiative designed to create a system of early care and education in Arizona. The initiative, First Things First, set aside a dedicated tobacco tax (approximately \$150 million annually was to create a governance structure and form a regional delivery system). The initiative passed in 2006 with 51% of the vote and then was upheld by 69% of the vote in 2010 when it was referred back to the ballot by the legislature to be eliminated. Both successful initiatives required grassstops (those who have direct access to policy makers due to relationships) and grassroots strategies to be successful. A total of \$4.5 million was raised for both initiatives and was used to fund the needed legal work, polling, media, political strategy, and voter outreach. Examples of the most effective voter outreach included the following:

Targeted direct mail pieces to likely voters with messages that resonated (i.e., male independent voters cared most about the health of young children).

Phone banks organized by nonprofit agency partners using volunteers. All likely male and female Republican and independent voters were called through volunteer efforts.

Social media—with limited funds, social media

were a mechanism to create the perception of a large movement.

Local advocates—with a regional council model, it was effective to engage local advocates to be strong spokespeople and advocates. These local advocates cut across party lines and reflected the diversity of the communities in which they lived.

Media Attention

The media—newspapers, television, radio, Facebook, Twitter—have enormous influence in how the public thinks about an issue. Politicians check their local news, letters to the editor, and editorials to see what issues are trending with their constituents. Traditional print and radio stories, op-ed articles, and editorials have value, especially when they appear in key policy makers’ localities. Engaging the media by giving them story ideas and helping them find people to interview helps build public and political awareness. Social media platforms such as Facebook, Twitter, and Reddit are widely used by advocates and by policy makers and require very little time of grassroots advocates.

Examples: The Strong Start Coalition and Moms Rising held an event on the lawn of the U.S. Capitol in 2013 with a large mock version of the Chutes and Ladders board game with facts about early childhood education and investment needs. U.S. senators and representatives came out and played the game with children and to talk to the press. Organizations that participated, along with members of Congress, posted pictures of the event on Facebook and tweeted about the Strong Start bill with the hashtag #investinkids. The media was invited, and journalists from several media outlets attended, writing stories in newspapers and online publications, giving additional attention to the issue.

Public policies can promote or thwart better experiences for young children and families that produce benefits for everyone. There was never a better time than now to get involved in advocacy at the local, state, and national levels.

Adele Robinson

See also Child Care Policy and Practice; Data-Based Child Advocacy; Early Childhood Research and Policy Linkages; Policy and Early Childhood Education

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EMERGENT CURRICULUM

Curriculum is the how, what, when, and why of a program of study. *Emergent* describes a curriculum approach to early childhood teaching and learning that focuses on children's questions and search for answers. Emergent curriculum unites depth, breadth, and integration of subject areas and developmental domains. The underpinnings of this approach come from constructivist and sociocultural theories. The primary importance of emergent curriculum is the focus on the child as a co-creator of curriculum with the teacher; this creates enthusiastic and engaged learning for teachers and children alike.

Contributions to the Development of Emergent Curriculum

The understanding of emergent curriculum comes through a variety of lenses that expands validity

of this approach in early childhood education. Theorists such as Jean Piaget (1896–1980, a Swiss developmental psychologist) and Lev Vygotsky (1896–1934, a Russian psychologist), though varying in their perspectives on how children acquire knowledge, agreed that children construct meaningful understandings through their experiences. Piaget's cognitive constructivism focuses on how the child builds personal knowledge, based on stages of developing cognitive capabilities. Vygotsky's sociocultural theory highlights culture, language, and social interaction as mediators in how children build knowledge.

These theories can be combined to describe, explain, and, in part, predict how children acquire knowledge in a learning environment where children and teachers collaborate in questioning, discovering, and reflecting. Likewise, the writings of John Dewey (1859–1952, an American educator and philosopher) championed children as capable learners whose knowledge changes through interactions with their world.

Contemporary contributions include those from Italian educators Loris Malaguzzi (1920–1994), founder of the Reggio Emilia approach, and Lella Gandini, present-day teacher, author, and international "point person" for this approach. In an interview in the book *The Hundred Languages of Children*, Malaguzzi captured the essence of the Reggio Emilia approach by explaining, "What children learn does not follow as an automatic result from what is taught. Rather, it is in large part due to the children's own doing as a consequence of their activities and own resources" (p. 44).

Gandini extends these ideas by teaching that the process of learning is ignited by provocations and inspirations, whereby children and teachers discuss ideas from which new understandings emerge. The observation and documentation of what children do and say is the key to teacher dialogue about next steps in learning. Howard Gardner's theory of multiple intelligences supports this approach by explaining the various ways individuals think, learn, and represent their knowledge.

Additional contributions that confirm the status of emergent curriculum have been provided by

early childhood experts Sylvia Chard, Lilian Katz, and Judy Harris Helms. Their development of the project approach emphasizes children's interests and focused investigations. The teacher, as facilitator, plans and structures children's explorations based on child-defined themes. The project approach departs from emergent curriculum with teacher-led orientation to planning and evaluation. In emergent curriculum, children partner in planning and evaluation. They delve into deeper knowledge through evolving dialogue and experiences between themselves and teachers. Elizabeth Jones, of Pacific Oaks College, and Margie Carter and Deb Curtis, early childhood trainers and consultants, provide further description and guidance for implementation of emergent curriculum.

Benefits of Emergent Curriculum

Early childhood curriculum should be meaningful and reflect the needs of children in order to enable success in school and in life. Emergent curriculum benefits children, teachers, families, and communities. Research has documented important benefits for children that

- acknowledge children as active participants in their own learning;
- provide opportunities for children to take increasing responsibility for their own learning;
- motivate children to learn through participation in the planning of topics based on their interests, questions, and abilities;
- develop problem solving that enhances thinking skills and leads to deep and complex knowledge;
- enhance the development of self-expression, oral and written language, and creative abilities; and
- foster lifelong learning.

Likewise, studies of emergent curriculum have shown benefits for families and communities that

- allow genuine participation that supplies the diverse cultural knowledge unique to each setting;
- encourage effective communication about children's learning and the contributions of family and community priorities and ideas; and

- meet expectations for a child-responsive program in which children are engaged and enthusiastic about the program and learning.

Teachers employing the emergent curriculum have opportunities to

- integrate learning across all developmental domains through play, real-life activities, routines, and transitions;
- provide continuity connecting children's prior knowledge to new learning that leads to deeper understandings about topics of interest;
- challenge and support children to explore many ways of explaining and representing their ideas;
- develop and teach a curriculum that is dynamic, evolving, and child-centered;
- document and assess learning connected to a child's personal knowledge, abilities, and dispositions that align with education standards and curriculum requirements; and
- encourage professional development and strengthen teaching through reflection on practice.

Disadvantages of Emergent Curriculum

There are several cautionary disadvantages to emergent curriculum. There are two overarching considerations. First, when emergent curriculum is blended with other curriculum models on a trial basis, unexpected or unmanageable outcomes impede rather than promote learning. Second, if teachers are unclear about developing curriculum together with children, then curricular outcomes may be less than optimal—teacher learning may be diminished, child learning may go undocumented, or teaching and learning may become haphazard. The following list details additional barriers that, if addressed, may allow for full implementation of emergent curriculum.

Curricular Middle Ground Challenge. Elizabeth Jones describes emergent curriculum as a curricular middle ground between teacher- and child-directed curricula. In order to arrive at this middle ground, the teacher's intentions for engaging children must

be led by children's choices and their identity as capable learners. Children's awareness, questions, and exploration, then, will drive the *emergence* of inquiry, investigation, and discovery. This means that the locus of control for defining the source, processes, and evaluation of emergent curriculum must be shifted in the direction of the child.

This does not omit teacher contribution; rather, a *locus of control shift* rebalances the responsibilities for constructing the curriculum among participants—adult or child teachers and adult or child learners. One challenge is that most schooling systems see adults as only teachers and children as only learners. Likewise, teacher training often stresses that the teacher be “in charge,” so relinquishing even some control to children runs counter to what teachers are taught, to what administrators look for, and to many societal expectations. If the challenges of working in partnership with children, optimizing balanced control, and achieving mutually valued outcomes are not met, then exploration, communication, or participation may become only a means to measurable skills or standardized achievement levels rather than lifelong learning.

Teacher Disposition, Skills, and Values. Emergent curriculum intertwines various teaching–learning roles, modes, and outcomes, making it inherently complex. Teacher disposition, skills, and values are influences that impact the implementation of emergent curriculum. Teaching intuitively, a disposition, often makes it difficult for the creative teacher to translate how and what children learn into historically conventional terms for children, parents, colleagues, policy makers, or the public. A teacher's skill may be limited in sparking learning through co-constructed curriculum *with children*, which involves intentionally unscripted interactions and careful observation. Emergent curriculum demands that the teacher be steadfast in valuing the child as an active partner in the learning process. However, these teacher characteristics are not easily acquired without extensive practice.

Reliability. Typically, emergent curriculum is a one-of-a-kind teaching–learning experience. It is a set

of uniquely evolving and interrelating explorations with a single group of children. Sensitivity to each new group's learning styles and capabilities may hamper duplication of the exploration. While parts of an investigation might be repeatable, learning cycle nuances that include awareness, exploration, inquiry, and utilization of new knowledge are likely to vary. This means that emergent curriculum is not conventionally reliable in terms of producing finite measures of learning.

Accountability Confusion. Emergent curriculum does not define measurement for accountability. Widely accepted thinking about quality schooling stresses that the child receives knowledge and prescribed lessons yield discrete, easily measurable learning units. Often, test scores to measure achievement are the primary means to justify educational budget expenditures. In contrast, emergent curriculum uses photographic and narrative documentation to detail changes in children's learning over time. Therefore, emergent curriculum may be difficult to justify in terms of cost–benefit to policy makers and educational funding sources.

Implementation of Emergent Curriculum

To implement emergent curriculum, researchers and practitioners have identified four key elements: (1) teacher dispositions, skills, and knowledge; (2) the learning environment; (3) the roles of the child and teacher; and (4) partnerships and relationships. With a curriculum that is continuously evolving, dispositions include the willingness to document and tolerance for ambiguity. Skills include observation, documentation, and interpretation. A thorough understanding of child development in all domains and knowledge of benchmarks for academic and developmental expectations comprise the essential teacher knowledge base. Teachers need to value and know (through initial preparation and ongoing professional development) how to gather, organize, and evaluate data about children's learning

across an array of environments, communication methods, and accommodation strategies. Then, they can confirm the extent to which children meet educational standards and expectations for continuous intellectual and developmental growth.

The learning environment, as a teaching force, reflects the local community and allows for flexibility and play. The physical and emotional environment provides a blend of ideas, ethics, attitudes, and cultures. Ambiance and aesthetics offer a welcoming and secure sense of place. One hallmark of emergent curriculum environments is the use of open-ended materials, which lead to the multi-use or unexpected use of space and supplies. The use of time and space match the direction and intensity of the children's engagement. This means that objectives may be adjusted as learning progresses. Likewise, play provides suggestions for topics plus an avenue of learning. The social learning that accompanies play generates important lifelong lessons and perspectives on sources of knowledge.

In the co-constructed emergent curriculum, teacher and child have distinct as well as shared roles. The Reggio Emilia approach details the teacher's distinct role as provocateur, researcher, and learner, and the child's distinct role as a capable learner and decision maker. The observation and documentation of children's play, as employed by a teacher-researcher, furthers learning by suggesting provocative questions for investigation. This questioning increases the likelihood for teachable moments.

Through careful listening to play interactions, the teacher-provocateur learns the depth of interest and current level of knowledge about children's interests. An example of a provocative question is found in this scenario: While children are exploring the color blue, the teacher asks "What makes things blue?" The child, an independent learner with personal funds of knowledge, is able to draw meaning from experiences and make decisions that propel learning forward. Both teacher and child utilize questioning to further the learning process and use a variety of means to represent and interpret the learning.

Child-directed and play-based emergent curriculum embraces open and reciprocal relationships

with all members of the program community—teachers, children, families, and the local community. The establishment and maintenance of trust is fostered with communication and dialogue about the status of the curriculum and learning.

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See also Approaches to Learning; Constructivist Curriculum; Curriculum and Early Childhood Education; Reggio Emilia Approach

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EMOTIONAL DEVELOPMENT

Emotions have traditionally come first in the early childhood field. The history of early childhood education reflects strong influences from theories that have emphasized emotion-related issues: psychosocial development, the importance of close relationships with parents and other caregivers, and children's feelings as the foundation for long-term development. In the face of mounting pressure to prioritize academic skills, early childhood professionals have long argued in favor of nurturing children's emotional lives.

More recently, compelling research evidence has been available to support the beliefs and experiences of early childhood practitioners, while also creating a more nuanced, complex picture of emotions' contribution to overall development and learning. This entry describes the key components of emotional development, traces influences on their emergence, and identifies effective strategies for preventing and addressing young children's emotional difficulties.

Functions of Emotions and the Components of Emotional Development

What Are Emotions For?

Emotions are at the core of human experience and human development. In every culture and period of history, people have experienced the same fundamental positive and negative emotions, including joy, interest, surprise, fear, anger, sadness, and shame. Emotions evolved for a purpose: These feelings motivate human beings to connect with others and take action. Even very young children experience and can express basic emotions. However, children's emotion-related competencies expand over time—in the process known as emotional development.

Components of Emotional Development

Components of emotional development include emotion expression, emotion understanding, and emotion regulation. Specifically, emotional development includes children's growing ability to

(a) understand their own emotional state, (b) understand others' feelings, (c) use culturally appropriate words to describe feelings, (d) feel empathy for others, (e) understand that sometimes inner feelings and outward expression are not the same, and (f) regulate one's feelings of distress or other intense emotions (emotion regulation). Taken together, these and other abilities contribute to children's overall emotional competence.

Why Is Early Emotional Development So Important?

Even when they are very young, children differ in their emotional competence and in the risk that they may develop emotion-related difficulties as they grow up. These differences have important consequences. If emotional development is not progressing well, it can have a ripple effect on other domains. A few examples illustrate this point. Children who misinterpret their classmates' feelings (thinking other children want to hurt them when they just want to play) will find it hard to make friends and may be bullied or bully others. Children who cannot regulate their own feelings of anxiety or frustration may avoid new, challenging learning opportunities that could support their academic competence. Children with persistent challenging behavior are usually less engaged in classroom activities, do less well in preschool, and cause their teachers high levels of concern and stress. In contrast, emotionally competent children are more likely to be accepted by other children, to take advantage of learning opportunities in the classroom, and to achieve academic success as they move through school.

Major Influences on Young Children's Emotional Development

Influences within and beyond the family can support, or sometimes undermine, the development of emotional competence.

Family Influences

Secure, nurturing relationships with parents or other family caregivers provide the basis for positive

emotional development. Within the family, young children also begin to learn “emotion language,” learn appropriate ways to express and regulate emotions, and learn to discern other family members’ feelings—all part of the important process of emotion socialization.

Influences Outside the Family

With the vast majority of young children spending time in child care, pre-K, and other programs, supporting early emotional development becomes an important responsibility for those outside the family as well as for parents.

Although most early childhood classrooms have a tone that is emotionally positive, some educators ignore or disrespect children’s feelings. Many educators do not take full advantage of opportunities to intentionally teach emotion regulation skills, emotion understanding, and other components of emotional development.

Young Children Whose Emotional Development May Be at Risk

Some children may be at special risk of not developing key emotional competencies, including critical skills in emotion regulation. For example, emotional regulation may challenge children who have been diagnosed with autism, Down syndrome, or other disabilities and developmental delays; children who grow up in abusive or emotionally neglectful environments, or in families in which a parent is depressed; and children whose teachers treat them distantly, harshly, or disrespectfully because of their socioeconomic or ethnic background.

Contemporary Initiatives and Interventions to Promote Positive Emotional Development

Fortunately, even children at risk of maladaptive emotional development can flourish when emotional competence is made a priority. A number of federal and state standards, as well as early childhood programmatic initiatives, are explicitly addressing emotion-related outcomes.

Emotion-Related Outcomes in Federal and State Standards

At the federal level, Head Start’s Child Development Outcomes Framework includes Social and Emotional Development as one of its six domains. Within this domain, the subdomains of Self-Regulation and Emotional and Behavioral Health are the most emotion-relevant. Head Start provides staff with research-based resources and recommendations for classroom strategies to support development in each of these areas.

All 50 states and some territories have standards or early learning guidelines (ELGs) describing desired outcomes for preschool-age children. All of these states address social and emotional learning in some fashion, usually through a distinct “social and emotional” or “socioemotional” category (in contrast, only one state—Illinois—has a free-standing social and emotional learning category in its K–12 standards). Typically, social skills are emphasized more in these standards than are emotion-related skills. Specific emotional development standards and indicators vary from state to state, with some apparently guided by research on emotional development (e.g., including indicators of children’s ability to develop relationships with adults and peers). In contrast, other states have limited the domain’s scope to emotional self-regulation and compliance with rules.

Programs to Promote Positive Emotional Development and Address Children’s Emotional Challenges

General Early Childhood Curricula and Teaching Practices

Emotional development goals are emphasized explicitly in many widely used, comprehensive early childhood curricula. Often these curricula identify ways that teachers can use activities such as dramatic play, puppets, music, sensory experiences, and creative art to help children understand and express emotions and work through specific emotional issues.

Everyday teaching practices, aligned with the principles of developmentally appropriate practice,

can support children's emotional competence. Consistent with emotional development research, educators can find opportunities to build warm personal relationships with individual children, model appropriate expressions of emotion, identify and name children's feelings, talk about the reasons why people feel the way they do, offer many opportunities for pretend play (which has been found to support emotion regulation), take seriously children's distress while helping them learn to self-regulate, give children ways to help their classmates feel better when they are upset, recognize and honor individual or cultural ways of expressing emotions, and carefully assess children's emotional development so that the results can be used to create more supportive environments for all children.

Programs Specifically Targeted Toward Emotional Competence

In addition to embedding emotion goals within comprehensive curricula, several curricula or other intervention programs have been developed to specifically promote emotional competence or, somewhat more generally, social-emotional competence. These include the Preschool PATHS curriculum and the Incredible Years curriculum. In an ongoing, large-scale randomized trial, the Head Start CARES demonstration project is examining the effectiveness of these programs along with a third approach (Tools of the Mind, a more comprehensive curriculum with a strong emphasis on the use of make-believe play to promote self-regulation).

Current interest in these kinds of programs, including careful evaluation of their effectiveness, reflects increased attention to emotional development as a critical domain in early childhood and increased understanding that well-planned, intentional intervention is important, especially for children who are at risk of emotional difficulties.

There does not appear to be one curriculum or one prevention program that has the answer. Reviews of research and recent evaluations suggest a few guidelines. First, effective programs need to be grounded in sound theory and research. Second, beginning early—preventing problems before they

begin—is best. Third, effective programs often combine direct, intentional teaching of emotional skills (such as recognizing or regulating emotions) with many informal opportunities to experience and practice emotional and social learning. Along with these priorities, teachers, family members, and others need to be supported with professional development, skilled coaching, or other resources so that the curricula or other programs are well implemented. Finally, as with most other kinds of interventions, programs that are implemented over time, ideally over multiple years, are more likely to be effective than isolated lessons.

Conclusion

Attention to young children's emotional development has taken on greater urgency as early childhood services receive renewed attention from the public and policy makers. Increased numbers of young children who may be at risk for emotional difficulties because of poverty, family violence, disabilities, and other risk factors are entering prekindergarten, Head Start, and other preschool programs. As children grow up, the consequences of failing to address emotional development may be seen in school failure, antisocial behavior, mental health issues, and community violence. Early childhood professionals need to implement and rigorously evaluate programs that promote positive emotional development and address emotional difficulties in the early years. At the same time, current and future teachers need enhanced professional development, including ongoing coaching and mentoring, so that they can incorporate evidence-based approaches into their practice. Finally, in drawing implications for social policy from the emotional development research, Cybele Raver (2002, p. 1) concludes that “while young children's emotional and behavioral problems are costly to their chances of school success, these problems are identifiable early, are amenable to change, and can be reduced over time”—encouraging news for administrators, policy makers, teachers, families, and the children themselves.

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See also Emotional Disabilities and Assessment; Healthy Environments for Social-Emotional Development

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EMOTIONAL DISABILITIES AND ASSESSMENT

Young children demonstrate skills across a variety of domains. The play and language of young children are measured through direct observation and can easily be compared to developmental checklists and milestones. However, the emotional and behavioral skills of young children are not always so easy to assess. There are myriad circumstances and situations that make the identification of young children with emotional disabilities a challenge. However, given the recent studies indicating that young children with social-emotional problems persist to school-age settings, there is a need to examine the assessment and identification process in order that intervention can occur swiftly and appropriately for young children.

If a child's emotional competence is of concern, the parent/caregiver or other professionals can make a referral to a state agency based on the child's age (i.e., birth to age 3, preschool, school age). Once the referral is made, there are numerous screenings needed to rule out other factors that may influence the child's emotional and behavioral competence.

Screenings

Ordinarily, a hearing and vision screening would occur early in the process to ensure that the challenging behaviors were not a result of a sensory delay. These screenings can occur at the pediatrician's office or other medical provider.

Prereferral Interventions

Once required screenings and evaluations are completed, a multidisciplinary team should be convened to examine all required screening data and teacher or parent/caregiver information.

During this prereferral conference and meeting, teachers and parents/caregivers should review all pertinent data to determine if a causal relationship can be found for the emotional or behavioral challenges. If so, child- or classroom-specific interventions should be developed by the team to support the child. Additionally, while supporting the child is very important, so is the support and guidance to the teacher or parents to ensure the interventions are implemented with integrity and fidelity.

It is important to note that when selecting an appropriate intervention strategy, it is imperative that a research-based intervention be selected. Such interventions have a strong pedagogy and empirical backing to be shown effective in changing behaviors for young children. These interventions often require training for the child in the acquisition of skills in language, cognition, or social skills, or to support the all-around learning and growth of the child. Simultaneous, classroom teachers and parents need assistance in environmental or curricular modifications. Often parents or teachers will need training to implement targeted interventions. This training may come from the school support team or at the school district level. It is not the responsibility of the family to seek such supports and trainings on their own.

The interventions must be individualized specifically for a student and a particular behavior, even when implemented within a classroom. Further, the behavior intervention should be implemented for a minimum of 3 weeks, ideally up to 6 weeks, with daily data collection on behavior recorded daily. When collecting data, it is important to record data in terms of frequency, duration, and intensity.

Evaluations

If the team determines that the intervention was not effective, however, it is necessary to refer for a full education and behavioral-emotional evaluation. These evaluations will be conducted at the school, typically by the school psychologist and school faculty. The behavioral-emotional evaluation is conducted to document whether there are

deficits in emotional function or coping skills. These evaluations can take many forms but often include student interviews, completion of checklists or rating scales by teachers and parents/caregivers, or observational data.

In addition to the behavioral-emotional evaluation, a comprehensive education evaluation will be conducted by a certified psychologist, special educator, or other trained professional. These evaluations would include a full assessment of the classroom environment, the student's strengths and weakness, achievement testing, present level of academic functioning, and curricular information. This information should provide a global picture of the child's academic, social, and behavioral performance across the child's entire school environment and learning day.

Additionally, a complete psychological evaluation should be conducted by a certified or licensed psychologist. This evaluation will provide valuable information as to the student's overall academic achievement and behavioral history. Often this evaluation is accompanied by an intellectual evaluation when learning challenges or giftedness is suspected. A social/developmental history adds to the richness of the evaluation by providing a summary of all information collected during the prereferral process. This information includes interviews with parents/caregivers and teachers, which highlight the academic and behavioral developmental profile of the child. The thoroughness of this evaluation will assist team members in documenting both normal and abnormal developmental events. Finally, a communication evaluation is often conducted to include a comprehensive assessment of a child's expressive and receptive language skills.

After all evaluations are completed, an individualized education program (IEP) team will meet to discuss the results of the evaluation, placement considerations, and potential for supports from the special education program through an IEP. The team must include parents of the child, a regular education teacher, a special education teacher, a representative from the local education agency, and an individual able to interpret the testing evaluations as

well as the instructional implications from the evaluations. Any other person may be a part of the team at the discretion of the parents or local education agency. The team will meet and present the results of the comprehensive evaluation to determine eligibility for *emotional disability*.

The federal definition of *emotional disturbance* is

a condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree that adversely affects a child's educational performance:

(A) An inability to learn that cannot be explained by intellectual, sensory, or health factors.

(B) An inability to build or maintain satisfactory interpersonal relationships with peers and teachers.

(C) Inappropriate types of behaviors or feelings under normal circumstances.

(D) A general or pervasive mood of unhappiness or depression.

(E) A tendency to develop physical symptoms or fears associated with personal or school problems.
(CFR 300.8 (c)(4)(i))

In determining eligibility, team members must examine several facets of the federal or state definitions. The federal definition is broken down below to address various types of assessments needed throughout the process.

First, the condition must be present over a long period of time. Although a recommended amount of time is not specified and can vary across circumstances, the team must utilize professional judgment to determine that the amount of time is sufficient to determine a pattern of behavior and need for supports. The pattern of behavior cannot be the result of a single traumatic event, response to a situational crisis, or other behavioral outbursts expected to subside over time. The appropriate amount of time will be dependent on the child's age and developmental level and will be at the discretion of the IEP team.

Another aspect of the federal definition is that the condition must be exhibited to a marked degree. Regardless of the behavior, in order to be

eligible for special education services, the behavior must occur at a greater frequency, intensity, or duration than that of students in the general education classroom. Additionally, these behaviors must be exhibited across multiple environments and not related to specific circumstances, teachers, or academic areas. Given that this documentation is a key factor in determining eligibility, it is essential when developing prereferral interventions that special considerations be made in order that data can be collected on the behavioral frequency, intensity, and duration.

Further, the behaviors must have an adverse effect on the educational performance. Therefore, the full-scale educational and psychological evaluations are key components to be certain there is not an intellectual, sensory, or health factor manifesting the behavioral challenges. However, if there are noted intellectual, sensory, or health factors, the team must determine that these conditions are not the primary determining factor of the child's lack of progress. For example, a child may have learning disability, but the team must demonstrate that it is the emotional disability, not the learning disability, as the primary cause of the lack of educational progress.

Characteristics

As referenced in the federal definition, a child must exhibit one or more characteristic over a long period of time. The five characteristics are outlined and discussed below.

An inability to learn that cannot be explained by intellectual, sensory, or health factors. As mentioned previously, a child's lack of educational progress cannot be a result of an intellectual, sensory, or health-related factor. Further, this progress is based on a child's individual learning potential. This potential is determined by the educational and psychological assessments conducted. For the identification of emotional disturbance, a child's issue must be so severe that he or she could not be adequately served in the general education setting alone.

An inability to build or maintain satisfactory interpersonal relationships with peers and teachers. For identification under this characteristic, there is a need for significant documentation from a variety of sources. Therefore, it is essential that assessments and data collection of both supports and behaviors are systematically collected and analyzed to determine if such a deficit occurs. Although behavioral outbursts are easiest to document, there is also a need to examine extreme social withdrawal and social isolation. Again, these behaviors, both passive and aggressive, must occur across the day and social groups.

Inappropriate types of behaviors or feelings under normal circumstances. To be eligible under this criterion, when under normal conditions and environments across time a child must exhibit significant and inappropriate behaviors. The behaviors are easiest to document because they are clear in action. These behaviors can include, but are not limited to, overreaction to environmental stimuli, obsessive or compulsive behaviors, and extreme verbal outbursts. However, identifying feelings is difficult because they can be subjective. Therefore, the assessment needed to document such issues must be clear and consistent. Often data collected through personal interviews, projective psychological testing, and targeted observations can be valuable assessment information.

A general or pervasive mood of unhappiness or depression. Again, the assessment of this characteristic can be difficult because a child will often mask these feelings with angry or aggressive outbursts. Therefore, student and teacher interviews are a key assessment for this area. Keeping records of behaviors such as withdrawal from friends or desired activities, frequent crying, or anxiety will be helpful in assessing the presence or absence of depression.

A tendency to develop physical symptoms or fears associated with personal or school problems. Often a child may develop physical symptoms related to the challenges she or he is facing. To be

a qualifying element, these symptoms must meet the same standard as the definition (i.e., marked degree, long period of time). Additionally, the physical manifestation needs to be assessed to determine if it is of psychosomatic origin.

Once all assessments are considered and if criteria are met, a child may be identified with an emotional disturbance. Continual assessment of student progress will be needed for a child to reach his or her learning and behavioral potential. A yearly IEP meeting will provide a benchmark and a timeline, and ongoing assessments will provide documentation for progress monitoring and identifying any changes that may need to be made to a child's IEP.

Conclusion

Although identification of young children with emotional disturbance is a long process, it is a necessary one. Assessments are key in the early identification leading to appropriate services and supports that may lead to the reduction of problematic behavior. A variety of assessment tools are required in order to create a broad and comprehensive picture of the child's social and academic abilities and needs. Many times, interventions put in place after the initial assessment provide enough support for a child and his or her teacher to address the challenges successfully.

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See also Accommodations for Assessment; Assessing Children for Disabilities; Atypical Development; Behavior Disorders; Emotional Development

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EMPATHY

The word *empathy* is derived from two Greek words, *empátheia* (affection) and *páschein* (to suffer); based on these origins, the term refers to recognition of someone else's pain or distress. There is a useful distinction between empathy and sympathy. Sympathy is the emotion of pity or feeling sorry for someone else while empathy relies on higher levels of emotional identification with and understanding of difficulties and suffering experienced by others. Contemporary definitions of empathy have taken it a step further by linking it to positive action; therefore, what counts as evidence of empathy is compassionate action intended to support the person in distress. Furthermore, genuine empathy relies on emotion regulation to some extent because, in order to truly help someone else, the empathic person has to adjust his or her perspective and actions when others do not feel the way that he or she expected; otherwise, the prosocial behavior does not have the desired effect. Thus, empathy is more than feeling for someone else; it is a multicomponent construct with affective, cognitive, and behavioral dimensions.

As reflected in the research of Carolyn Zahn-Waxler, Martin L. Hoffman, and Nancy Eisenberg, there are linkages among empathy and compassion, moral development, caring, and altruism. The field of early childhood education places a high value on empathic behavior, both as an outcome for young children enrolled in early childhood programs and as a professional disposition of teachers and teacher educators.

Importance of Empathy Development for Young Children

The development of empathy depends on recognition of others' pain or distress, parallel emotions, understanding of others, emotion regulation, and social initiative. One model for understanding empathy comes from Mark H. Davis; it includes antecedents (variables from within the person such as temperament as well as contextual influences, such as the emotional impact of the specific situation); processes (both noncognitive, such as mimicry, and cognitive, such as making judgments about the other person's mental state); intrapersonal outcomes (affective and nonaffective); and interpersonal outcomes (such as helping or prosocial behavior). Children's empathy development is important for at least three reasons.

First of all, the roots of empathy manifest in infancy; empathy is arguably the earliest emotion to surface in human beings. Indeed, the early emergence of empathy in human beings has given rise to debates about whether or not the capacity for empathy is, to some extent, innate. One phenomenon that is cited as a precursor of empathy is a commonly observed response of newborn babies in a hospital nursery: When one baby starts to cry, others join in crying. This rudimentary response to others' distress is sometimes cited as evidence that a capacity for empathy is hardwired into the human brain as part of the need to affiliate with others. Interestingly, this reactive crying is elicited more by the cries of peers than by a recording of the infant's own cries, the cries of a chimpanzee, or other loud sounds. During toddlerhood, it is possible to observe more sophisticated behavioral repertoires that children use to react to pain and need in others. Often, this is accomplished by having the child's mother pretend to be injured and noting the child's facial expressions, emotional congruence, and efforts to comfort the caregiver. Gert-Jan Vreeke and Ingrid van der Mark posit that, upon a child being confronted with a caregiver's injury and tears, there is a progression along the lines of the following: recognition (She is in pain.), appraisal (Could/should I help?), identifying a course of action (How can I help?), and evaluation (Did she find me helpful?).

Second, because empathy is a social disposition, it develops over an extended period of time and is learned primarily through opportunities for the child to be on the receiving end of empathy and to observe other empathic encounters. Family variables such as the quality of attachment between parents and children, the parents' capacity for identifying with their child, methods of child guidance that are sensitive to the child's needs, and expectations for the child's behavior in various situations all appear to exert an influence on when and how the child's empathic behaviors emerge. Young children tend to need concrete evidence of need in others. So if a toddler sees a parent or teacher comforting a child who is crying with a hug and the offer of a tissue and, if the same visual cues (i.e., sad facial expression, crying, sobbing) are present, the toddler is more likely to emulate the empathic behavior. Even before children know what to do to help another in obvious distress, they may enlist help from an adult in response to another child's distress.

The third reason that empathy development in early childhood is so important is that the early childhood years are formative; in other words, early experience affects later experience. Empathic behavior is learned gradually in the context of social relationships. In the absence of such relationships, a person's full potential to respond to others in compassionate and helpful ways can be adversely affected. Perhaps the most persuasive argument for emphasizing empathy in the early years is to consider what happens when it fails to develop adequately. During childhood, deficits in empathy frequently are linked to aggression and conduct disorders. From a psychological perspective, a person with very low levels of empathy would be likely to exhibit antisocial behavior, feel little concern for others, and have no remorse about the harmful (and possibly criminal) actions he or she has taken against others. Therefore, developing empathic behavior in young children is widely regarded as a way of exerting a positive influence on society. Efforts to improve society through education (e.g., multicultural education and inclusion) advocate not merely for knowledge

about others but also for positive social action on behalf of those who have been marginalized and mistreated.

Issues About Teaching Empathy to Young Children

From Friedrich Froebel's first kindergarten to the schools of Reggio Emilia, guiding young children's social and emotional development has been a priority in early childhood education. Across the ages, respected leaders in the field of early childhood education have recognized the importance of building a sense of community among children and with families. There is little question that young children must learn to be compassionate and kind because, when these skills are lacking, it is difficult to form enduring, positive relationships with others. Controversies persist, however, about where responsibility for this teaching rests. Some families support teaching empathy as part of the early childhood curriculum, while other families feel that educators are overstepping their bounds and venturing into moral and/or religious teaching that is the province of family and faith, while others still may not, for a variety of reasons, ascribe the same value to their children learning to demonstrate empathic behaviors.

A second persistent debate about empathic behavior is whether, when, and how it can be taught. To date, most intervention efforts that have empathy development as a major goal have tended to focus on older students. A major recommendation from the National Institutes of Health (NIH) was to begin teaching prosocial skills much earlier to prevent children from becoming aggressive. In the past, empathy-building strategies were more likely to be infused into existing curricula; however, given the growing international concerns about cruelty and violence, the number and type of programs intended to promote prosocial behaviors (e.g., character education, bullying prevention, peace education, humane education) have increased. However, empirical research on the salutary effects of such initiatives is difficult to conduct and limited.

Evaluation research on the interventions often is criticized for neglecting to conduct a preassessment; relying on self-, family-, or teacher-report; gathering data over a short period of time; or failing to compare the relative effectiveness among existing programs.

Empathy in Early Childhood Educators

Empathy is of particular importance for early childhood educators in two major ways: first, as a prerequisite for fostering positive human relationships and second, as a way to address young children's challenging behaviors.

Empathy in Preservice and In-Service Teachers

The importance of effective partnerships with children, families, and community members as well as with colleagues and professionals from other fields depends, to a considerable extent, on the early childhood educator's empathic response. Therefore, developing a professional disposition of empathy for others is a major goal of early childhood teacher education, not only with preservice educators enrolled in teacher preparation programs but also with in-service educators pursuing professional development. It is critical that the early childhood educator's empathy extend not only to those perceived to be like herself or himself but also to those who are regarded as very different; to do otherwise compromises the early childhood educator's ability to work successfully with diverse groups of children and adults. If an early childhood educator cannot fully appreciate others' circumstances and/or refrain from being judgmental then reciprocal trust, mutual respect, and open communication cannot occur. Thus, deficiencies in empathy are a major obstacle to successful partnerships.

It is important to note, however, that it is possible for a teacher whose behavior was initially empathic to erode, a situation referred to variously as compassion fatigue or burnout. A decline in empathic behavior tends to occur

when an individual becomes too preoccupied with personal stressors to recognize the feelings of others, share in the feelings of others, communicate compassion for others' difficult situations, and choose a response that others find supportive and helpful. If early childhood educators are to become more, rather than less, empathic across their careers, they need to make deliberate efforts to sustain and increase empathy through activities such as engaging in reflective practice with responsible colleagues or seeking out professional development opportunities. Maintaining a high level of empathy for others is foundational to exemplary service as an early childhood educator, as reflected in the Code of Ethical Conduct and Statement of Commitment of the National Association for the Education of Young Children.

Young Children's Challenging Behaviors

Challenging behavior—a general term that refers to disruptive, aggressive, and violent behavior that inflicts mental or physical harm to others—has become a major concern of educators throughout the world. In international surveys, challenging behavior has been identified as one of the most pressing issues within the community of early childhood educators.

Early childhood is widely acknowledged to be the time when violence, aggression, and antisocial behaviors in human beings are most responsive to interventions. One trend in the research is that empathy is negatively correlated with aggression. This makes the early years an irreplaceable opportunity to teach empathic behaviors and exert a positive influence on the trajectory of empathy development in the individual. From the perspective of evolutionary and comparative psychology, empathy is foundational to progress toward becoming a more civilized society. Until or unless people widen the circle of other individuals and groups to whom they extend concern, compassion, and genuine care, society cannot become more just and humane.

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See also Emotional Development; Moral Development; Moral Dimensions of Teaching; Social-Emotional Competence; Social-Emotional Development

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ENGAGING CONVERSATION

Engaging conversation refers to a verbal interchange between two or more people on a shared topic that holds the interest and attention of participants. Children are introduced to this communicative form through interactions with others in their social worlds, often starting with adults, but also with peers and siblings. This entry reviews the research on the nature of engaging conversations in the home and school contexts, considers the implications of children's home experiences for their school success, and identifies the ways in which schools can use conversations to further educational aims.

Conversations are characterized by the relatively equitable exchange of thoughts, opinions, and questions on a particular topic through organized turn-taking. While both participants actively shape the direction of the conversation, each comment is related in some way to the one that came before. Children engage in conversation both at home and

at school, although the nature of the interaction varies across contexts.

Theoretical Framework

Human conversation is generally understood through the lens of Lev Vygotsky's sociocultural theory of development. This theory holds that culturally valued skills and understandings are conveyed through social interactions. Conversations are a particular type of social interaction that is predicated on joint attention to a particular topic or event and shared communicative intent. These interactions provide a particularly rich opportunity for adults to scaffold children's understanding, by creating an exchange of information and ideas that falls within what Vygotsky called the "zone of proximal development." The adult can set the demands of the task just slightly above the child's competency to support skill building and provide information and coaching to improve performance as needed. Through these mechanisms, conversations serve as opportunities to deepen understandings, develop skills, and create a sense of connectedness.

Research

Learning to Converse

Skilled conversation is a complex task, and children need to master a set of pragmatic language skills that support fluent conversations. They must learn to take turns with another (or multiple) participant, share the floor, stay on topic, show attention, and monitor and repair misunderstandings or confusions. Adults can facilitate early practice of these pragmatics in pre-verbal infants through proto-conversations, in which the adult and infant take turns verbalizing, with the mother providing examples of fluent speech. When children are just learning to talk, adults do most of the work in conversations, asking questions, encouraging the child to contribute, and then elaborating on the often one-word contributions of the child. These conversations rely heavily on the adult's understanding of the child's experiences, perspective,

and knowledge to interpret the limited contribution of the child.

As the child's skills grow, the adult reduces interpretive support and makes more requests for clarification to encourage the child to participate more actively and provide more explicit information. Children are increasingly expected to independently manage turn-taking, which requires an understanding of the implicit, culturally specific rules for these interactions as well as the self-regulation to follow them effectively.

Parent-Child Conversations

Parent-child conversations often focus on discussing events in the past, present, and future; sharing and constructing personal narratives; planning dramatic play; talking about books; and reviewing social norms and rules. These can occur at any time, but mealtimes, playtimes, and shared book reading activities are particularly rich opportunities. During these events, discussion of the non-present (e.g., past experiences, events in a book) is likely to occur and the skillful use of decontextualized language that explicitly communicates all information necessary to understand becomes important.

Decontextualized language relies on a more sophisticated vocabulary and more complex syntax, making it an important vehicle for developing children's language competencies. Extended conversations, in which parents encourage children's participation and provide elaborated responses to their contributions, lead to parental modeling and child practice of more complex speech. The complexity and diversity of parental speech, as well as the extent to which it is contingent on children's contributions and responsive to children's interests, is positively related to the development of children's oral language skills.

Different types of conversations have been shown to be important for other domains of development beyond language. Extended conversations about books develop children's reading comprehension and emergent literacy skills. The co-construction of personal narratives shape children's sense of

identity, while allowing for the integration and negotiation of social norms and expectations. The extent to which a parent talks about emotional states and provides information about differences in beliefs, preferences, and understandings of others helps children improve their perspective taking and social competence.

Conversations may carry explicit pedagogical intentions, as well. Parents sometimes discuss processes and physical phenomena with children, such as might occur when visiting a museum or cooking together. Through a conversational back and forth, parents learn what the child knows and does not know, so as to identify and fill in missing information. These exchanges can support a deeper understanding of causal relationships, greater knowledge about the world, and increased skill at using higher mental processes. Although pedagogical conversations are sometimes begun by adults, children in North American and European countries frequently seek out these conversations by asking questions about the things in the world and their experiences that have sparked their curiosity. These efforts are often successful at initiating extended conversations by eliciting explanations from parents, although parents in some non-Western cultures are less likely to provide explanations.

Parents vary greatly in the nature of the conversations they have with children. Some are very talkative, use rich language, elaborate on their children's contributions, and encourage extended conversation, while others say little and focus on behavior management. There is some evidence that these differences relate to socioeconomic status (SES) and that the differences in maternal language largely explain SES-based differences in children's language abilities.

Cultural differences also dictate the accepted topics and forms of conversation. Expectations about when and how one takes the floor, who talks and to whom, acceptable and taboo topics, and the nature of skilled performance are all strongly shaped by cultural norms. When the norms at home are very different from those at school, teachers may misunderstand and reject children's contributions, leading children to feel uncertain

and potentially silenced. For example, many African American families engage in an oral storytelling tradition built around dramatic and exaggerated narratives that are organized by comparisons and themes rather than temporal sequences. Children raised in this tradition are often puzzled by teachers' efforts to elicit sequential and factual accounts, despite using language skillfully at home.

Peer and Sibling Conversations

Peers and siblings can also be conversational partners and, in some cultures, are each other's primary source of conversation. With peers, there is less scaffolding of conversations than with adults, although older children do adapt their conversation to the needs of younger children. Often these interchanges include adult conventions but require less skilled participation and allow flexible adaptation of these forms, simultaneously challenging and supporting children's performance. Children often play together, negotiate conflicts, and share ideas. More opportunities to interact with other children have been found to relate to better conversational skill, increased social perspective taking, and more effective use of conversation to manage social relationships.

Early Childhood Classrooms

Despite the interest children show in initiating conversations with parents, conversations between children and teachers are often rare. Children don't ask many questions of teachers and, in many cases, teachers are predominantly focused on managing behavior. When conversations do occur, they tend to be far more teacher-directed than children's conversations with parents. To encourage conversation and extend children's language, teachers often use open-ended questions, as well as efforts to elaborate and clarify children's contributions. These interactions can occur between a teacher and a child, or within a small group, although in groups of more than three children the reciprocal nature of the conversation is often lost.

The use of open-ended questions about topics of interest to children can support interactive and language-rich interchanges, but it is essential that teachers give children time to respond and also follow up with other questions on the same topic to extend the discussion. Teachers must also bear in mind that children may not respond to the teachers' overtures for a variety of reasons, such as uncertainty or lack of interest, and non-response should not be interpreted as reflecting a deficit in language skills without efforts to understand children's competencies at home.

The research literature on classroom conversations has focused on their role in achieving educational goals, largely children's language and conceptual development. As with parents, extended discussions of books, personal narratives, and curricular topics have all been shown to support oral language development, narrative skill, reading comprehension, and conceptual understanding. Small-group activities and center times provide opportunities for teachers to initiate such conversations. Teachers can engage children during playtime, but teachers' tendency to be directive during these conversations can limit the richness of the language and the extent of children's participation. Mealtimes have also proven to be a natural opportunity; when teachers sit with children they often converse on topics of interest to the child and use more varied and sophisticated language.

Conversation during learning activities at center times, such as science inquiries or mathematical problem solving, allows teachers to model the use of academic language and higher-order processes relevant to a particular subject, such as reviewing evidence to evaluate a prediction or justifying a process for solving a math problem. Explanations and discussions of causal relationships are frequent, providing both important information and opportunities for modeling and practicing complex language. When these conversations are child-directed, teachers can also learn about the topics that spark individual children's curiosity; curriculum driven by children's interests has proven to be one way to engage children in extended exploration of ideas in early childhood classrooms.

Conversation-Based Classroom Interventions

Efforts to train teachers to engage children in extended conversation and use elaborated language and varied vocabulary have had mixed effects. Trained teachers do not always initiate more conversations nor use more complex language, and successful efforts seem to require extensive coaching. When teachers do converse with children, positive impacts on children's oral language abilities and literacy skills have been identified. Math and science curricula that include systematic opportunities for teachers to discuss problems with individual children or small groups have also shown positive impacts on both the relevant content-knowledge and oral language skills. Although the role conversations play in children's social-emotional development has not been evaluated as extensively, there is some evidence that training teachers to engage in child-directed conversations can build a sense of connection between teachers and children. And when teachers problem solve interpersonal conflicts with children, positive impacts can also be found on children's social skills. Although not an easy skill for teachers to learn, engaging conversations can be a useful tool in early childhood classrooms.

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See also Language Development; Literacy; Oral Language Development; Vocabulary; Warm and Responsive Interactions

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EQUITY AND EQUALITY IN EARLY CHILDHOOD

Equity and *equality* are core constructs in moral development that describe ensuring fair, equal, and just treatment of others, and are relevant in early childhood education in terms of peer interactions as well as student–teacher interactions. Developmental science research provides clear evidence that from a very early age children recognize, identify, and reason about a wide range of transgressions as morally wrong including those involving physical and psychological harm to others, unequal treatment, and denial of rights. Further, even very young children demonstrate the capacity to act in prosocial ways, such as sharing with others and being inclusive. This entry provides an overview of moral development theory that drives research on equity and equality, reviews research findings documenting moral judgments and reasoning related to equity and equality in

early childhood and prosocial action in young children, and outlines some of the core issues surrounding equity and equality faced by children in early childhood education settings.

Overview

Research on young children's understanding of issues involving equity and equality reaches back to Jean Piaget's seminal research on moral development outlined in *The Moral Development of the Child*. More recently, Elliot Turiel proposed social domain theory as an approach that delineated issues in the moral domain, which include harm, justice, equality, fairness, and rights, from those in the societal domain, which involve customs, traditions, and conventions, and those in the psychological domain, which involve personal choice and autonomy. This model has been supported by research conducted across the life span, and in a wide array of contexts and cultures.

Broadly, findings indicate that developmentally children first recognize physical harm as wrong, followed by understanding the unfair nature of unequal distribution of resources. Following this, children evaluate psychological harm as wrong, and begin to recognize the importance of protecting the rights of others. When making moral judgments, even very young children do not just focus on the external consequences that the transgressor might experience, but reason about moral issues with a focus on intrinsic harm to others.

Research

Research on equity and equality in early childhood has focused on judgments and reasoning in children aged 2.5 years and older, while observational or behavioral research has been conducted with children who are too young to verbally justify their decisions. Research with toddlers has demonstrated very early emergence of prosocial behavior. Toddlers spontaneously aid others in distress, share with peers, and exhibit empathic concern. At the same time, young children frequently engage in conflicts with their peers. Findings indicate that as

young children develop theory of mind, the ability to recognize other's intentions, beliefs, and desires, which occurs during the preschool period, they are better able to understand that transgressions can occur accidentally. Thus, understanding others' perspectives may aid children in interpreting and resolving conflicts surrounding issues of equity and equality.

Research by Judith Smetana and colleagues indicates that most moral conflicts in early childhood, such as those surrounding equity and equality, occur between peers or siblings as opposed to with adults. Findings with preschool and early elementary school children indicate that children strongly prefer when resources are allocated equally, though they may at times act in ways more beneficial to the self. Even very young children recognize that behaviors that cause harm to others, such as inequitably dividing resources, are moral issues, and are distinct from social conventions such as procedures for lining up or customs regarding dress. Further, research documents that children recognize that behaviors such as hitting, pushing, and not sharing are morally wrong and that children prefer to hear teachers respond to such transgressions using moral language, such as appeals to ensure equitable treatment of others.

Some issues faced by young children are not completely straightforward, however. Social exclusion is a complex context for children as demonstrated by Melanie Killen and colleagues. Young children strongly reject exclusion because of the psychological harm that it causes when someone is inequitably denied entry into a group or told they cannot play with others. At the same time, even in early childhood children begin forming social groups and feel a loyalty to their group.

This conflict between group membership and a sense of equity can prove difficult for children to resolve. For instance, when children must choose between two children to include in a gender stereotypical activity (such as playing with dolls) they often justify excluding the non-stereotypical child using reasons surrounding group membership or stereotypes. Thus, research indicates the many ways in which young children exhibit an early

emerging and well-developed sense of equity and equality, while also noting that in complex or multifaceted contexts children do at times still act in inequitable or unfair ways.

Implications

Research documenting young children's early emerging sense of justice and fairness suggests many ways that early childhood classrooms can support children's development and awareness of issues surrounding equity and equality. Teachers can encourage children to consider others' perspectives when engaging in dramatic or pretend play. They can support children by ensuring that they treat all students equitably. Further, educators and parents can frame their conversations with children while considering research that indicates the importance of talking about rules and transgressions by using domain-appropriate language (for instance, discussing issues of harm and fairness for moral issues and smooth group functioning or tradition for social conventional issues).

There is often an assumption that children are selfish or incapable of sharing and acting in fair ways. Research indicates that, in fact, even toddlers reliably exhibit prosocial behavior and that very young children justify why acts such as hitting or not sharing are wrong by using moral reasons. Parents, educators, and policy makers, then, should foster positive social environments where children have opportunities to engage in social interactions and to resolve their own conflicts. Supporting children as they work together to resolve conflicts, share, and take turns can encourage children to develop strong interpersonal skills and a recognition of the core issues surrounding equity and equality.

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See also Empathy; Moral Development; Peers and Play; Prosocial Behavior

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ETHICS IN EARLY CHILDHOOD EDUCATION

This entry addresses the moral dimensions of working with young children and the role of ethics in the professional repertoire of early childhood educators. The topic of ethics was introduced to early childhood educators in 1978 with the publication of Lilian Katz and Evangeline Ward's book *Ethical Behavior in Early Childhood Education*. Since that time, professional ethics has become an important component of early childhood teachers' education in the United States. It is incorporated into accreditation standards of both programs serving young children and institutions of higher education preparing their teachers. This entry explores the role of ethics in a profession, provides an overview of terminology that relates to morality and ethics, discusses morality and ethics for educators with an emphasis on the contributions of codes of ethics, examines the National Association for the Education of Young Children's Code of Ethical Conduct, and considers what it means to be an ethical early childhood educator.

Ethics Terminology

It is helpful to begin with an overview of terminology since these terms are used in specific ways when discussing professional ethics. Following are some widely used definitions:

- *Morality*, based on personal values, is a person's view of what is right and wrong. It concerns

people's duties and obligations to one another and is characterized by words such as *right*, *ought*, *just*, and *fair*.

- *Values* are beliefs that individuals hold to be intrinsically worthwhile. They are prized for themselves and often guide behavior (e.g., truth, beauty, honesty, justice, respect). Values come from one's family, culture, community, faith, and society.
- *Ethics* involves critical reflection on moral issues. It includes the study of right and wrong, duties, and obligations.
- *Professional ethics* involves reflection on professional responsibility that is carried out collectively and systematically by the membership of a profession. Professional ethics tells professionals what they ought to do and what they ought not to do in the workplace.

Ethics and Professions

A profession is an occupation that provides an essential service and makes a commitment to promote a significant value (e.g., health, justice) that is critical to the overall well-being of society. Professionals are persons who have received specialized training and who use their skills and abilities to serve society while honoring the commitments of their profession. The degree to which an occupation is considered to be a "profession" reflects its position along a continuum that has doctors, lawyers, and similarly highly specialized occupations at one end and unskilled workers at the other. Every occupation can be thought of as occupying a position on this continuum—most fall somewhere between the two poles. Early childhood education is not considered to be a "paradigm profession," such as law and medicine, whose practitioners must complete prolonged programs of postsecondary education; whose contributions to society are unquestioned; and who are usually accorded significant pay, power, and prestige. Nor is it considered an "unskilled occupation," totally lacking specialized expertise and training. Rather, it can be regarded as an "emerging" profession. Its practitioners make important contributions to society, and the importance of the early childhood

educators' knowledge and skill is, increasingly, becoming widely recognized.

Codes of Ethics

Professionals provide a service that is essential to the well-being of their clients and to society. And because of the specialized knowledge and skill these practitioners have acquired, the society trusts them to perform their particular function. Because of this trust, members of the profession must instill confidence that they will serve the public good. They must take their responsibilities seriously and must demonstrate a strong moral commitment to do what is right and fair.

Trust in a profession is engendered through its code of ethics, a document based on the field's collective and systematic reflections about its values and responsibilities. A code sets forth the profession's moral commitments to its clients and to society. It is like a contract between society and the profession—it assures the public that professionals are acting in the best interests of their clients and are worthy of the public's confidence and support.

A profession's code of ethics provides a vision of what the profession should be like and how professionals should behave. It raises its members' awareness of ethical issues, provides guidance for ethical decision making, supports practitioners in doing what is right even if it is not easy or popular, helps those entering the field understand its commitments, assures the public that practice is based on sound and agreed-upon moral standards, and supports the best interests of those being served. Standards of ethical conduct are not statements of taste or preference. They reflect the history and values of the field, communicate with those outside the profession what they can expect from its members, and provide a shared common ground for professionals who strive to do the right thing.

Many recognized professions have a national organization to develop standards for entry, oversee the admission of candidates into membership, create and enforce ethical guidelines, investigate reports of incompetent or unethical behavior, and provide continuing education. The

study of professional ethics is an important component of most professionals' preparation.

Ethics in Education

Educational scholars agree that teaching is a profoundly moral endeavor and that it is important for teachers to understand their moral responsibilities to their students. That is why some scholars call for teacher educators to pay as much attention to teaching the ethical dimensions of teaching as they do to curriculum and instruction. But ethics has not, to date, claimed a central place in the programs of study of most preservice teacher education programs. Teachers are often left to rely on their instinctive sense of right and wrong rather than the ethical guidelines for practice applicable codes of ethics can provide.

Elementary and Secondary Education

The focus of ethics in elementary and secondary education has tended to be on the character of teachers, which is seen as having a strong impact on students' moral development, and on curriculum that directly addresses moral development in students. The most widely used moral development curricula (sometimes referred to as "values education" or "character education") are designed to shape students' sense of right and wrong and guide them toward becoming productive members of society.

There is little attention to professional ethics in the preparation of candidates preparing to teach in elementary and secondary schools. The National Council for Accreditation of Teacher Education (NCATE) accreditation has been recognized as the highest standard of excellence in teacher education for many years. Its widely relied-on teacher preparation standards include knowledge of ethical codes as a component of candidates' essential professional knowledge and professional dispositions. NCATE and the Teacher Education Accreditation Council (TEAC) were consolidated into CAEP (Council for the Accreditation of Educator Preparation) in 2013. The CAEP initial certification and advanced program standards retain the

expectation that candidates' professional knowledge includes an understanding of their field's code of professional ethics.

But while knowing and using the field's code of ethics is an essential component of the preservice curriculum for paradigm professions such as law, medicine, and engineering, instruction in professional ethics has received little attention in the curriculum of elementary and secondary preservice teachers. Two codes that could apply to teachers who work with students from preschool through Grade 12 are those developed by the American Montessori Society and the National Education Association (NEA).

The NEA Code is quite general, however, and has not been updated to reflect contemporary issues and concerns, so it is not very helpful for resolving today's ethical dilemmas, and there are few, if any, resources to help instructors integrate instruction in either of these codes into teacher preparation programs. What's more, there is still no specified place in the curriculum of most teacher preparation programs for candidates to learn about the moral dimensions of teaching and professional ethics. For these reasons, scholars continue to express concern that while there is interest in the idea of moral education, and in spite of the fact that preparing teachers for ethical practice has long been included in teacher preparation standards, there is not much emphasis on preparing teacher candidates for the moral work they will do.

Early Childhood Education

Early childhood educators perform an essential role in our society as they work with the youngest children at a critical time in the life cycle; it is therefore incumbent on them to pay particular attention to ethical behavior. In recognition of the importance of the field's moral commitments to children, families, and society, early childhood organizations throughout many parts of the English-speaking world have developed guidance for ethical decision making by adopting codes of professional ethics.

Lilian Katz and Evangeline Ward identified two characteristics of the work of early childhood

educators that underscore the essential role of ethical guidance. The most compelling reason for early childhood educators to have a code of ethics is that young children are vulnerable and lack the power to defend themselves. The adults who care for them are larger and stronger and control the valuable resources that children want and need. Young children are powerless and cannot defend themselves from teachers who are uncaring or abusive. For that reason, it is extremely important that those who work in early childhood programs act fairly and responsibly on children's behalf.

The second reason that it is essential for early childhood educators to have a code of ethics is that they serve a variety of client groups—children, families, employing agencies, and the community. Most early childhood educators would agree that their primary responsibility and loyalty is to the children. But it can be hard to keep sight of this priority when parents, agencies, or administrators ask teachers to do things that they do not think are in the best interests of children and demand that their own concerns be given priority. Early childhood educators need guidance about how to prioritize the needs of these different groups when their interests conflict.

The National Association for the Education of Young Children (NAEYC), the United States' largest and most influential professional association devoted to the care and education of young children, has mapped the ethical dimensions of early childhood education and developed its Code of Ethical Conduct to guide its members' work with young children. Another code of ethics that applies to many early childhood educators is that of the Council for Exceptional Children's Division for Early Childhood (DEC). In addition to codes developed in the United States, early childhood professional organizations in Australia, New Zealand, Singapore, and several of Canada's provinces have developed codes that reflect their local values and culture.

The NAEYC Code of Ethical Conduct

The NAEYC Code of Ethical Conduct is the best-known and most widely used code of ethics for

early childhood educators in the United States. It provides a common framework for helping early childhood educators to understand their moral commitments and offers them guidance in addressing ethical issues that arise in their work. The development of the NAEYC Code of Ethical Conduct was an important step in raising awareness of the moral and ethical dimensions of the early childhood educator's work and has provided a common framework for thinking about ethics and addressing ethical issues that arise in the work of early childhood educators. Because NAEYC is a membership organization open to all who are interested in the education of young children and not a professional association that regulates the profession, its code is not enforced.

The NAEYC Code was first adopted in 1989, after a multiyear process of development that involved extensive participation by members of NAEYC. The association reviews and revises the Code of Ethical Conduct regularly to keep it current and relevant. Members of the association were asked to provide input for revisions of the NAEYC Code in 1992, 1997, and 2005.

Organization of the Code

The NAEYC Code includes a preamble; a list of core values; four sections describing professional responsibilities to children, families, colleagues, and community and society, as well as ideals that describe how the field aspires to behave; and a statement of commitment that provides an opportunity for individuals to express their agreement with the values and responsibilities expressed in the NAEYC Code.

The *core values* articulated in the NAEYC Code reflect the central beliefs and commitments of the early childhood field and are deeply rooted in its history. They provide a foundation that makes it possible for educators to move from personal values and beliefs to a shared understanding of the professional values that apply to everyone who works with young children.

These values, set forth in the NAEYC Code, include commitments to the following:

- Appreciate childhood as a unique and valuable stage of the life cycle
- Base our work on knowledge of how children develop and learn
- Appreciate and support the bond between the child and family
- Recognize that children are best understood and supported in the context of family, culture, community, and society
- Respect the dignity, worth, and uniqueness of each individual (child, family member, and colleague)
- Respect diversity in children, families, and colleagues
- Recognize that children and adults achieve their full potential in the context of relationships that are based on trust and respect. (NAEYC, 2011)

Each of the four sections of the NAEYC Code includes a brief introduction, a list of ideals, and a list of principles. Ideals point the individual in the direction of desirable and exemplary professional behavior. The principles identify practices that are required and those that are prohibited.

Availability

The NAEYC Code of Ethical Conduct has had a strong impact on practice in early childhood education. This influence can be attributed to NAEYC's commitment to making the NAEYC Code widely available, building it into the association's activities, and making it visible to members through regular publications and conference presentations. It is available online in brochure form in English and Spanish. NAEYC has published two books about professional ethics and the use of the NAEYC Code, and an ethics column appears twice a year in the association's practitioner-focused journal, *Young Children*. The NAEYC Code is also included in most U.S. early childhood textbooks and in the curricula of early childhood teacher education programs.

Expansion of the Code's Reach

Supplements to the NAEYC Code that address the unique ethical responsibilities of adult educators

(2004) and program administrators (2006/2011) also have also been developed based on input from practitioners.

The NAEYC Code has been adopted by the National Association for Family Child Care (NAFCC) and endorsed by the Association for Childhood Education International (ACEI) and the Southern Early Childhood Association (SECA).

Addressing Ethical Issues

It is important to remember that not every issue faced by teachers of young children involves ethics. The ones with ethical dimensions have to do with right and wrong, rights and responsibilities, and human welfare. When an educator encounters a challenging issue in the workplace the first thing she or he needs to do is to determine if it involves ethics.

If it is an ethical issue, the NAEYC Code can provide guidance by first helping the early childhood educator determine if the issue is an ethical responsibility or an ethical dilemma.

Ethical responsibilities are clearly identified in the NAEYC Code. They spell out what a practitioner must or must not do, and are not subject to deliberation. The first, and most important, of the responsibilities spelled out in the NAEYC Code, and in the codes of most other professions, is to do no harm. The NAEYC Code's first principle makes this clear. P.1-1 reads, "Above all, we shall not harm children. We shall not participate in practices that are emotionally damaging, physically harmful, disrespectful, degrading, dangerous, exploitative, or intimidating to children. *This principle has precedence over all others in this Code*" (NAEYC, 2011; emphasis added). This principle tells early childhood educators that their first and most important obligation is to protect the well-being of children and that everything they do should be considered in terms of its potential to harm a child.

The NAEYC Code identifies another important ethical responsibility of teachers of young children, a responsibility shared with other professionals: to honor confidences. Early childhood educators acquire a great deal of personal information about

the children and families they serve. While it is appropriate to share children's and families' personal information with other professionals who have a legitimate need to know, communicating privileged information with others without good cause can erode trust and harms relationships.

Additional ethical responsibilities spelled out in the NAEYC Code include being aware of and basing practice on the knowledge base of early childhood education; being familiar with applicable laws and regulations; respecting families' cultures, child-rearing values, and their right to make decisions for their children; attempting to resolve concerns with coworkers and employers collegially; and assisting programs in providing a high quality of service.

Ethical Dilemmas

A very important function of a code of ethics is to provide guidance in addressing the ethical dilemmas that occur in the workplace. An ethical dilemma is a predicament that involves conflicting responsibilities; requires a choice between alternatives, each of which has some advantages, but also some disadvantages; and has more than one defensible resolution.

The following are some of the kinds of dilemmas that regularly occur in early childhood programs:

- balancing responsibilities to individual children with the needs of the other children in a group;
- navigating differences between families' wishes and teachers' professional best judgment;
- program policies, including assessment practices, that teachers believe are not in children's best interests;
- dealing with colleagues who do things that are not in children's best interests;
- concerns about colleagues' behavior including breaches of confidentiality and failure to meet their responsibilities
- observing violations of licensing or school regulations.

Deciding on the right course of action when faced with an ethical dilemma is often very difficult. Teachers can be tempted to address the issue

quickly by relying on their intuitive sense of right and wrong. It is important, however, for them to use a deliberate process to reach a thoughtful and defensible resolution based on a code of ethics as well as their good professional judgment. The first thing an early childhood educator who is using the NAEYC Code for guidance should do when facing an ethical dilemma is to determine if a child could potentially be harmed. If this is the case, priority must be given to the needs of the child.

The process described below has helped many early childhood educators decide on the most defensible resolutions to the ethical dilemmas they have encountered in their work. It is based on the second edition of *Ethics and the Early Childhood Educator* with guidance from the NAEYC Code:

Identify the conflicting responsibilities. To whom do you have responsibilities in this situation (children, families, colleagues, the community) and what do you owe to each one?

Brainstorm possible resolutions. List all of the possible ways that you might be able to resolve this dilemma.

Consider ethical finesse. Think about a way to resolve the problem that would be satisfactory to everyone involved and that would avoid having to make a difficult decision that favors one stakeholder.

Look for guidance in a code of ethics. Carefully review the ideals, principles, and core values in the NAEYC Code that relate to this situation. List the relevant items in the NAEYC Code and think about how they apply.

Decide on a justifiable course of action. Select what you think is the most ethically justifiable resolution to the dilemma. This resolution will combine guidance from the NAEYC Code with your best professional judgment. It should be consistent with your values and those of the early childhood field.

Implement, revisit, and reflect. Communicate your decision to all of those involved, taking care to respect the feelings of those who might not

have had their position supported by the decision. Consider the impact of the resolution and think about whether there are policies that could be put in place that would have been helpful in addressing it.

How can early childhood educators be confident the resolution they have reached is a good one? It can be helpful to think about the answers to these three questions: What if everyone acted this way? Could I defend this action on the evening news? Does this resolution respect relationships?

Ethical Behavior

All early childhood educators need to be aware of their moral responsibilities and know and use a code of ethics. It is equally important that they behave ethically in their day-to-day interactions. This is particularly significant because educators' role gives them power over children and families, and their behavior can have a powerful and lasting impact. Young children are vulnerable and have few defenses and resources for dealing with adults who do not treat them well or fairly. And families rely on teachers to do the right thing and to provide accurate and constructive information about their child's learning and behavior in school. For these reasons, early childhood educators must use their power and influence wisely.

Fairness means that the culture, ethnicity, gender, and abilities of children and families are respected. Ethical teachers appreciate each child as an individual, focus on strengths, and provide equal opportunities for all. They help children learn in a safe, caring, and respectful environment, and they strive to make learning interesting and meaningful.

Reflecting on the potential impact of their behavior on others helps teachers to do what is right. It is important for them to consider how children will feel about their words and to think about who will benefit from their actions.

Understanding ethical commitments and knowing an appropriate code of ethics and referring to it for guidance should be integral parts of every

early childhood educator's day-to-day practice. But a code of ethics is a useful tool only if an educator understands its contents, its spirit, and how it can contribute to professional interactions.

Stephanie Feeney and Nancy K. Freeman

See also Division for Early Childhood; National Association for the Education of Young Children

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ETHNIC AND RACIAL IDENTITY DEVELOPMENT

Race is to a large extent a social construction of which only very little is rooted in genetics or biology. Nonetheless, race and ethnicity continue to serve as major organizing features of our society, and they play a big role in the development of one's social identity—especially for people whose racial or ethnic category is in a numerical minority. The term *ethnic and racial identity* (ERI) is commonly used to describe the process of identity development that takes place during adolescence and continues into adulthood. But this is preceded by an equally important process taking place during childhood—a process usually referred to as ethnic and racial identification. Both processes will be covered in this entry.

Ethnic and Racial Identification

Before children can identify with a particular race or ethnicity, they need to first learn what this concept entails. Children are born with an innate

ability to categorize, and this enables them to learn about the world around them. Through the various socialization practices they learn which category distinctions are important and which are not. While they easily recognize the difference between a red shirt and a blue shirt, or between a blonde and a brunette, they quickly learn that these categories are not particularly important in the social organization of our world. However, they learn that race or ethnicity is.

Around the age of 3 or 4 children begin to develop racial awareness, which means they learn to recognize racial differences, label the differences, and categorize themselves within a racial or ethnic group. The initial classification of the self is usually based on physical criteria and labels that have been discussed in the home. Between the ages of 5 and 8 children develop racial constancy, which means they understand that their race or ethnicity will not change. They also begin to show knowledge about the distinguishing characteristics of their racial or ethnic group and develop feelings about belonging to the group. This allows for more subjective identification with the group. During these early school years they also start to absorb the more complex information about racial and ethnic groups, including stereotypes and social status, but despite this, even children of minority status show very positive views of their own group by late elementary school.

Ethnic and Racial Identity (ERI)

During adolescence children begin to explore who they are, and they go through various levels of identity exploration and commitment to their choices. This identity exploration encompasses a host of issues related to their personal values, belief systems, and goals for the future. During this phase, adolescents who are part of ethnic or racial minority groups also explore how their ethnicity or race intersects with other parts of their identity and begin to make decisions about the degree to which they will adopt the values and customs of their own group and those of the majority culture. Based on Erik Erikson's theory of identity formation and James Marcia's identity

status categories, Jean Phinney identified three phases of ERI development often experienced by adolescents from minority groups. The unexamined ethnic identity (diffusion/foreclosure) phase is characterized by a lack of exploration. Adolescents in this phase may not be interested in examining their ethnicity (diffusion), or they may have stopped exploring after having internalized negative views of their ethnic or racial group (foreclosure). The ethnic identity search phase is characterized by active exploration. Adolescents in this phase are examining what their ethnicity or race means to them and the effect it has on their lives. Finally, adolescents in the ethnic identity achievement phase have developed a clear understanding and commitment to their ethnic identity.

ERI in the Context of Discrimination

Research shows that exposure to racial discrimination, or the expectation thereof, often triggers or stimulates racial identity exploration. However, identification with a minority group is not directly associated with low self-esteem. Instead, adolescents who develop a positive affiliation and pride in their ethnic group show more positive adjustments. In fact, this positive regard and affiliation with the groups is one of the main goals of ERI. The other is preparation for bias. Research on African American and Hispanic youth has documented that awareness of discrimination can buffer against some of the negative effects of discrimination and prejudice. However, this varies based on the centrality of one's ERI and the type and frequency of discrimination.

Salience of Ethnic and Racial Identity

ERI is usually studied in minority group members. One reason is that for majority group members race or ethnicity is often not very salient, and their racial group membership does not affect their lives the way it does minority group members. Similarly, race and ethnicity is not always equally salient to minority group members, because it is often situation dependent. These differences can be explained by Marilynn Brewer's theory of

optimal distinctiveness. Individuals have two specific needs, which despite their seemingly opposite objectives can be simultaneously satisfied through their social identities. One of these is the need for deindividuation, meaning a sense of belonging or connectedness to a group. The other is the need for distinctiveness, meaning a sense of uniqueness and differentiation.

By identifying with a particular group, such as a racial or ethnic group, an individual can satisfy the need for deindividuation. Simultaneously, the identification with this group also allows for distinctiveness via comparisons to other groups. For majority group members, such as White Americans, race is less salient and therefore the need for deindividuation is not easily satisfied by identifying with this majority group. Instead, they may be more likely to seek out a different social identity for this need, such as identifying as Irish American, Jewish, or College Student. Similarly, in situations where racial or ethnic minority group members are among others who are similar to them, such as a Black student attending a historically Black college, race is less salient and a different social identity may be chosen to satisfy the need for deindividuation, such as religion or political affiliation. Thus, manifestations of ERI vary across time and across contexts within individuals.

Multiracial and Multiethnic Identity

People who are biracial or multiracial are sometimes faced with the intersections of genetic, cognitive, emotional, and visual factors that contribute to their chosen identity, including what they may perceive as an imposed racial identity (what others believe they *should* identify as). Theories of ERI development within multiracial individuals can be categorized into four approaches: (1) the problem-based approach, in which multiracials are believed to be in a permanent state of crisis due to the interracial conflicts present in society; (2) the equivalent approach, in which the assumption is that multiracial individuals will identify themselves with the lower-status race, a phenomenon known as hypodescent; (3) the variant approach, which conceptualizes the multiracial population as

distinct from the single racial groups and focuses on the development of a merged biracial or multiracial identity that encompasses the characteristics of each group; and (4) the ecological approach, which posits that the multiracial identity is contextually specific—something that would align with Brewer’s theory described previously. In addition, the ecological approach also allows for a person to choose no racial identity. Most recent research shows that ERI among multiracials often changes over the life course, varies from person to person, and varies across different sociocultural contexts.

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See also Development of Prejudice; Multiracial Families; Sociocultural Theory

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ETHNIC DIFFERENCES AND FAMILIES

The ethnic backgrounds of children in the United States are remarkably diverse, and this diversity represents rich variation in family cultures. The cultural diversity among children in early education contexts presents both challenges and opportunities for the largely monolingual and White teacher population. This entry provides examples of the ways in which young children’s home culture may differ from their early education or school setting and create opportunities for children, parents, and teachers to learn from each

other as they engage at the intersection of different cultures.

Although the number of White students enrolled in U.S. public elementary and secondary schools decreased from 2002 to 2012, children from Latino ethnic backgrounds increased considerably, according to the National Center for Education Statistics. Latino children constitute the largest and fastest-growing ethnic minority group in the United States and, by 2024, are expected to represent 29% of all students in public elementary and secondary schools. During the 2013–2014 program year in the federal Head Start program, which serves low-income children and families, 43% of participants were White, 29% were African American, and 38% were from Latino or Hispanic backgrounds. Compared to their White peers, ethnic minority children are more likely than their White peers to be living in poverty. Hence, examining ethnic group differences is complicated by the confounding of ethnic minority membership with low-income status. Finally, although data are often reported on children of color using broad racial/ethnic groupings, it is important to recognize that cultural diversity among U.S. children reflects many aspects of their backgrounds, including race and ethnicity, ancestry, immigrant or generational status, socioeconomic status, access to formal schooling, religion, customs, and home language.

Parental Goals and Expectations

In general, all parents want their child to do well, but what it means to do well differs across cultural contexts. The skills and attributes that parents think are important for their child to acquire depend on what is needed to be successful in their social context. Across cultural groups, researchers have observed variation in parents’ beliefs about goals for their children, when children should acquire specific skills, the roles parents and other adults should play in children’s development, and how children should behave with peers and adults. When parents’ beliefs and values differ from those of their child’s teacher, the ease with which children transition between the cultural contexts of home and early learning center (or school) may be hindered.

Although acknowledging that within all cultures there are dimensions of both independence and interdependence, social scientists have argued that an important way in which cultures differ is in their emphasis on individualism and independence versus an emphasis on collectivism and interdependence. Researchers such as Robin Harwood have argued that having a stronger cultural emphasis on autonomy versus interdependence leads to differences in how parents socialize their child. For example, in a classic study of the goals and expectations of Puerto Rican and Anglo mothers, the Anglo mothers were more likely than Puerto Rican mothers to focus on their young child's personal development. They wanted their child to become independent and confident and to develop his or her own particular abilities and interests. In contrast, the Puerto Rican mothers were more likely to stress the importance of having a child be respectful, affectionate, and loving. This difference in emphasis between becoming independent and developing strong relationships with others is thought to reflect the broader cultural orientations toward individualism versus interdependence. European American mothers who want their toddler to become autonomous are more likely to expect their child to be able to play by herself in another part of the room if the parent is talking with another adult and not to cling to the parent. On the other hand, the Puerto Rican mother might expect her child to sit close by her while she visits with someone else. These two perspectives can lead parents to have different expectations of what is "normal" for a child who enters a preschool classroom for the first time. One mother might be happy for her child to quickly engage in some activity in the room. Another might be disappointed if the child did not cling to her for a while.

Parents' general knowledge of child development and expectations for when children attain developmental milestones varies across groups. Sometimes these differences are related to scientific knowledge about children's development. For example, researchers have found that compared to U.S.-born middle-class parents, middle-class immigrant parents were less likely to know when infants

attained certain physical milestones, such as being able to lift their head up when lying on their stomach or how much time a typical newborn cries during a day. Such differences may present opportunities for early childhood educators to provide information on child development to parents. Other times, these differences reflect cultural beliefs about the development of parent-child relationships. In a study of mothers with 8-month-old infants, researchers found that on average middle-class Anglo mothers expected infants to begin to feed themselves around 10 months of age and to master self-feeding between 18 and 19 months. In contrast, middle-class Puerto Rican mothers thought their infant would begin to self-feed around 17 months of age and to master self-feeding around 24 months. One can easily imagine that this difference in expectations might lead to young children in a toddler class having more or less comfort with self-feeding at snack time.

Parent Engagement in Children's Early Learning and Schooling

As a function of their beliefs and perspectives on early development and education, parents differ in the learning experiences they provide their children both inside and outside the home. For example, in a nationally representative sample of families in the United States, European American parents report reading more frequently to infants compared to Asian American, African American, and Latino parents and are more likely to read to preschool-age children than African American and Latino parents, but not Asian American parents. Similarly, European American and Asian American parents are more likely to teach their children numbers and shapes than are African American and Latino parents.

Differences in the types of early literacy opportunities that parents engage in with their children have been associated with differences in parents' beliefs about how and when children learn to read. For instance, in Latino immigrant families, parents are less likely to share books at home with their child until the child has learned how to read in school. The Latino immigrant parents generally do

not view emergent literacy behaviors as meaningful learning activities, and thus do not read to their child until they perceive their child to be capable of understanding a story, usually around the age of 5. Further, when reading to children, Latino immigrant parents are less likely to engage in academically oriented interactions with their child, such as asking questions about the story or giving explanations of concepts that are connected to the story. The Latino immigrant parents believe that there are other ways in which parents prepare their children for school. To help children do well in school, Latino immigrant parents report teaching children to obey and to learn right from wrong. They stress the importance of telling children stories in order to convey moral content. Such factors may be one reason that Latino children from Mexican American backgrounds evidence strong social development outcomes in early childhood but weaker language and academic outcomes in comparison to their monolingual peers and Chinese immigrant families.

Across ethnic and cultural groups, parents tend to approach childrearing in different ways, particularly with respect to levels of parental warmth and control. Considerable research has examined cultural influences on practices related to parenting style, conceived as the stress parents place on nurturing and granting autonomy to (or exercising control of) their children. In general, research on parenting style has found that parents who are warm and nurturing and who set appropriate rules for their children (i.e., parents who have an authoritative parenting style) have children with higher academic achievement compared to parents who are either too strict or too lenient in their parenting.

Although positive effects of authoritative parenting are found for European American parents, the relation between authoritative parenting and school achievement is not consistent across families from other ethnic and socioeconomic backgrounds. For example, studies of first-generation Chinese parents have found parents to be highly controlling and yet to have children who perform remarkably well academically. Similarly, compared

to European American parents, low-income African American parents are more likely to elicit control and fear in their children, and this behavior is associated with positive outcomes related to children's safety and schooling. Among Latino mothers, researchers have observed that parents' use of directive or high power assertion strategies are associated with generational status (first- versus second-generation immigrant) and maternal education. Mothers with more education, and who are less likely to be first-generation immigrants, use more inductive strategies than mothers with less education and those who have recently immigrated to the United States.

Research examining ethnic minority mothers' home learning behaviors reveals differences in book sharing styles of African American, Dominican American, Mexican American, and Chinese American mothers from low-income backgrounds when sharing a wordless picture book with their child. African American and Mexican American mothers were more likely to have discussions about story components during book sharing than were Chinese mothers. Compared to other mothers, African American mothers talked more frequently about the characters' individual goals; Chinese mothers were least likely to refer to individual goals. However, Chinese mothers made more references to negative consequences of actions compared to other mothers. Dominican and Mexican American mothers talked more about the emotions of the characters compared to other mothers. These findings appear to highlight cultural differences in parents' beliefs about children's development.

Although differences appear to exist between mothers from various cultural backgrounds, it is important to note that larger differences are often evident in book sharing and teaching styles between parents with less education (or lower socioeconomic status) and those with more education within a given cultural group. Parents with less education are more likely to approach and view their children's literacy development as a discrete set of skills that children need to acquire. As a result of these beliefs, parents with less education

are more likely to emphasize the importance of providing direct instruction in basic literacy skills (e.g., teaching children the alphabet) in order to help children learn to read.

In contrast, parents with more education are more likely to consider a wider range of language, reading, and writing activities to foster children's literacy development and to embed such activities within regular family routines. These parents are more likely to facilitate children's involvement with reading and writing activities by making learning to read fun and enjoyable for children, and using social interactions and language in ways that foster children's motivation for reading (e.g., cooking with a recipe card or reading signs at a grocery store). Importantly, differences in the home literacy experiences of children in low- and middle-SES homes have been observed in multiple ethnic groups. Because parents with different backgrounds may use different literacy strategies with their child, it is important that early childhood educators encourage multiple ways for parents to promote children's language and literacy skills rather than, for example, one prescribed manner of reading a book.

Finally, given the diversity in the United States, many early childhood educators have classes comprised of children who represent a variety of cultural backgrounds. Although this entry has provided a few examples of the ways in which cultural groups differ, it is likely impossible for teachers to be familiar with the cultural values and practices of all of the families they touch. Moreover, within any particular ethnic or racial group, there is much diversity. Among Native American families, for example, there is no one set of beliefs and values that is embraced by all Native American families. The same is true for other groups. General knowledge about a racial or ethnic group does not necessarily apply to a specific family from that group but may help early childhood educators understand why some children and parents act in ways that do not conform to the teacher's expectations.

Lynn Okagaki and Gary E. Bingham

See also Cultural and Linguistic Responsiveness; Cultural Diversity

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EXECUTIVE FUNCTIONING

Executive functioning skills, as opposed to academic skills, are often called soft skills or character traits of learners. These soft skills have been shown to be essential, perhaps even more important than native intelligence, for academic success through the school years and are also related to adult success in the workforce and as family members.

Executive functioning consists of the following four skills:

- Working memory: Ability to hold information and recall it when necessary
- Cognitive flexibility: Ability to change tasks, multitask, and adjust mental effort
- Inhibitory control: Ability to resist distractions no matter how compelling
- Self-regulation/self-control: Ability to inhibit a dominant response in favor of a less salient one, ability to delay gratification

The skills are described in more detail as follows:

Working memory is the ability to retain information and to call on that memory when needed and is acknowledged for building a child's knowledge without rote memorization. As a child has more and more experiences, more and more memories are stored. For early literacy development, vocabulary, decoding, and comprehension all utilize working memory. Working memory helps in making decisions between two or more choices in order to determine the most desirable or logical response to an action or situation. Taking the perspective of others is another key factor of working memory. Related to perspective-taking, working memory is required for metacognition—the ability to reflect on one's own thoughts.

Cognitive flexibility allows the brain to switch thoughts and to hold two or more thoughts simultaneously, necessary skills for multitasking. Cognitive flexibility is also the ability of the brain to adjust mental effort according to the difficulty of the task, such that harder tasks get more time

and easier tasks may require no mental effort at all. The brain's capacity to exert more effort on unfamiliar tasks and concepts allows a learner to filter through familiar or everyday information in search of more complex information. This ability to allocate more or less attention depending on the difficulty of the task allows for more efficient and appropriate work.

Inhibitory control is perhaps the most essential skill in the suite of executive functioning skills; it is the ability to resist distractions and stay on task. One could argue that this skill is even more important than native intelligence for success in school and life. Lacking the ability to prioritize and focus on one specific goal at a time significantly lowers the probability of success in completing tasks that are necessary for meeting goals. All successful learners have a healthy amount of inhibitory control.

Self-regulation is defined as self-control, or the ability to suppress emotions, feelings, or wants in order to complete a task or follow instructions. People often refer to the so-called marshmallow test when describing children who have or do not have this skill of self-regulation. In this test, children from the ages of 3 to 6 years old are presented with one marshmallow on a plate. The child is told that he or she can eat the one marshmallow now, or if the child can wait until the researcher returns (15 minutes later), the child will get two marshmallows. Some children eat the treat right away, some nibble at little pieces and/or lick the marshmallow, but some children can wait the full 15 minutes using a variety of strategies to thwart the eating of the marshmallow. Young children who are able to wait until the researcher returns are exhibiting self-control and demonstrating well-developed skills related to executive functioning. Delaying gratification is an essential skill in just about everything successful individuals do. Interestingly, the original marshmallow test study was longitudinal and showed that those children with higher levels of executive functioning scored significantly higher on the SAT than did those with lower executive functioning ability.

An additional aspect of both self-regulation and inhibitory control is emotional regulation. The ability to momentarily suppress and control our emotions in order to accomplish a task is an especially important skill for student–adult, student–peer, and adult–adult relationships.

Brain research using MRI shows that the primary home of executive functioning skills is the prefrontal cortex of the brain. Brain MRIs of children identified as having high levels of executive functioning show extreme activity in the prefrontal cortex of the brain. Children with lower executive functioning skills show a much lesser degree of activity. Research on the positive relationship of middle school reading comprehension and executive functioning skills, again demonstrated with MRIs of the brain, is quite clear. Middle-schoolers who have high levels of reading comprehension also have MRIs showing a high level of activity in the prefrontal cortex, home of executive functioning.

Finally, two analogies can illustrate what executive functioning skills do in the big picture. The first analogy is to think about the way an executive of a successful company or business manages his or her people and business. This high-level executive is fully aware of all that is happening in the company and uses information from multiple sources. The executive has a vision of where he or she wants the company to go. The executive is motivated internally and can motivate others.

The second analogy is that our executive functioning ability is like the ability of an air-traffic controller (ATC). The prefrontal cortex of the brain takes in all the incoming data as the ATC does with multiple incoming airplanes: multiple speed/level, and wind direction data, and changing weather information. The ATC brain ignores what is not immediately most important. The ATC uses past knowledge to make the correct decision for information at the present moment. The ATC has self-control and can ignore the fact that he or she may have had an argument with his or her spouse before reporting for duty. Finally, the ATC is flexible if more information becomes available, changes, and/or is more complex, requiring greater effort.

Executive function develops rapidly from birth to 8 years of age. Sociodramatic or pretend play with others requires a child to use working memory, flexibility, inhibitory control, and self-control and is the primary means of developing executive functioning.

Marcy Guddemi

See also Brain Development; Child-Initiated Play; Free Play, Importance of; IPA/USA American Association for the Child's Right to Play; Play, Nature of; Self-Regulation; Social-Emotional Competence; Social-Emotional Development

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EXPRESSIVE LANGUAGE

Expressive language refers to the ways in which human beings use language to communicate their thoughts and feelings. Children's expressive oral language skills are related to their overall language and literacy learning, their academic success, and their socioemotional development. Competence in expressive language has strong implications for children's sense of self, as well as for their relationships with others. This entry provides an overview of expressive language, with an emphasis on issues related to its significance, the process of developing expressive language, and

recommendations for practices that support expressive language in children.

The Significance of Expressive Language Development

Language is one of the most significant elements of human life. While debates have raged regarding the exact nature of oral language and its development, few would question its power and impact, nor the fact that the ability to use language distinguishes people from other living creatures and plays a defining role in what makes us uniquely human.

In broad terms, language is typically classified as being receptive or expressive in nature. Receptive language is a general term related to language input. It refers to the ways in which children hear and interpret the language that surrounds them. Conversely, expressive language is related to the concept of language output—the way in which children use language in order to communicate with others. Although these terms appear to indicate opposite aspects of language, it should be noted that the two processes are both inextricably linked and reciprocal in nature. Receptive language strongly impacts expressive language development, and vice versa.

The development of expressive language is crucial for children for many reasons. In brief, expressive language competence significantly impacts children's overall ability to communicate, to form social bonds, and to make academic progress in literacy, as well as across other areas of the curriculum.

Communication

Expressive language is a powerful communication tool that actually begins in a prelingual phase. Even before infants are making conscious use of language, they are able to cry, vocalize, and capture the attention of others. As they mature, children gain greater control over the sounds of language, begin to form words, and can eventually share desires, make observations, pose questions, and tell stories. They learn to express themselves from both a personal (“Love doggie!”) and more objective (“It’s a dog.”) perspective.

Most significantly, children use expressive language as a means of interacting with others. They learn that this type of self-expression incorporates verbal and nonverbal communication skills, involves turn-taking, and requires them to use their receptive language skills to better understand what is being shared by others. They engage in increasingly complex conversations, eventually learning the social mores and tacit rules that govern different types of communication. As they converse regularly, children gain confidence in their abilities to express themselves and to use language to communicate in authentic ways across varied contexts.

Social Bonds

Language is a uniquely social phenomenon. As children develop linguistic skills, they not only learn to express themselves, but they also find an important avenue through which they can connect with other human beings in important, authentic ways. Communication with others brings the expectation of a response. Thus, expressive language allows children to interact; to make themselves known, and in turn, to be known by others. In this sense, expressive language serves as a springboard for forging social bonds and as a means for nurturing these relationships.

Because expressive language is such a powerful relational tool, it plays a crucial role in children's social-emotional development and well-being. Children who struggle to express themselves may find it difficult to initiate new relationships and to connect meaningfully with the important peers and adults who are already in their lives. An inability to express oneself can result in social isolation and, in turn, can lead to sadness, frustration, and related negative, aggressive behaviors. This cycle can then lead to further misunderstandings and isolation. Conversely, children with strong expressive language skills are able to communicate more effectively, making it easier to establish friendships with peers and deepen relationships with family members, teachers, and other caring adults.

Academic Progress

The ability to effectively use expressive language is predictive of children's later literacy learning and overall academic success. There are strong connections between oral and written language competence. Thus, children who have strong speaking and listening skills also tend to develop strong reading and writing skills. As children utilize their expressive language skills, they not only learn more about language, but they also are able to use language to learn in more effective ways. This factor can positively impact their engagement and success across every area of the curriculum.

The Development of Expressive Language

Language acquisition, the way in which children acquire, learn, and develop language, plays a central role in children's overall development. This process of expressive language development is complex. It has been explored and debated by a wide range of scholars.

Theoretical Foundations

Many theorists have considered the ways in which the roots of expressive language are situated on the nature–nurture continuum. At one end of the spectrum, behaviorists, in the tradition of B. F. Skinner, emphasize the centrality of the nurture aspect. Expressive language development is viewed as a process strongly influenced by external factors and which evolves through ongoing imitation, stimulus–response learning, and the reinforcement of behaviors. At the other end of the spectrum, innatists, such as Noam Chomsky, emphasize the role of nature. Adherents to this perspective believe that children learn to express themselves primarily because language is an innately human ability and because they are biologically wired to communicate.

Theorists have also explored the role of constructivism, which emphasizes children's active sense-making processes in the development of expressive language. Jean Piaget's work is associated with models of cognitive constructivism.

This perspective posits that children's thinking leads language development and that children learn language by actively testing linguistic hypotheses in everyday speech. Expressive language is viewed as a reflection of cognitive knowledge. In contrast, Lev Vygotsky's work is based on the concept of social constructivism. From this perspective, children learn expressive language through active engagement within a social context, with an emphasis placed on the special role that interactions with adults and more experienced peers play in the facilitation of children's talk. Social constructivists believe that language not only reflects cognitive learning, but also leads it.

Although there are many different perspectives on the way expressive language develops, it is clear that it is a complex process deeply impacted by both internal and external factors. Expressive language development has a strong biological component and is also greatly influenced by environmental factors and early learning experiences. Children are active meaning makers who are influenced strongly by both cognitive development and the authentic social opportunities for using language that surround them.

Language Development

Expressive language development begins in the child's prelinguistic stage. Through the use of vegetative sounds, crying, cooing, and other forms of vocal play, babies begin to communicate with others. With time, typically developing children move into more formalized language. During the first year of life, they babble, approximate sounds, and begin to imitate words. Eventually, they communicate in one- and two-word utterances, which give way to simple sentences, and then narratives. Over time, children develop enhanced vocabularies, refined pronunciation, and a growing control over the core systems of language, including semantics (meaning), syntax (word order and sentence structure), grapho-phonics (sound-letter associations), and pragmatics (using language in a contextually appropriate manner), allowing them to express themselves effectively.

Recommended Practices to Support Expressive Language Development

There are many ways to support children's expressive language development. Primarily, expressive competence emerges through immersion and involvement in supportive, language-rich environments. Since early childhood is the key period for language development, it is crucial that parents and caregivers understand the importance of actively involving children in authentic language experiences from their earliest days. This involves surrounding babies with caring talk and immersing them in conversations even prior to the time when the child demonstrates any type of linguistic understanding. Responding to the child's vocalizations helps to provide a sense of reassurance, demonstrating that self-expression invites a response and is thus a powerful, shaping force on daily life. The use of gestures, facial expression, and parentese (an exaggerated form of speech used by parents and caregivers with young children) all help to scaffold and encourage expressive language.

Research indicates that daily life experiences that invite conversation provide an excellent means to enhance children's expressive language development. For example, family mealtimes offer a forum for children to actively participate in conversations covering a range of topics such as daily activities, different types of food preparation, current events, and family traditions. In this setting, children have an opportunity to engage sophisticated topics while trying out new vocabulary and conversational styles in a safe, supportive setting. Likewise, engagement in bedtime stories provides children with models of expressive, effective reading that they can use as they tell stories of their own. Opportunities to ask questions and make comments within the read-aloud frame invite the use of language in meaningful ways.

Early educators can utilize similar strategies for supporting expressive language. Children benefit from language-rich learning environments in which there are many opportunities to engage in meaningful talk with both peers and adults. This can be facilitated first and foremost by creating a

classroom culture in which every member feels valued, supported, and safe when sharing with others. Teachers can further enhance language learning by organizing classroom seating in small-group settings that make conversations seem natural and easy, by encouraging children to converse over snacks and meals, and by providing multiple opportunities for children to articulate their learning and express thoughts and feelings throughout the day. Morning meetings and other sharing times can be effective forums for the development and authentic use of expressive language. Socio-dramatic play offers an especially rich opportunity for children to use varied types of language within a safe, engaging setting.

As at home, school-based interactive read-alouds and related discussions offer abundant possibilities to both hear and use different forms of language. Songs, chants, and musical games can all serve as opportunities for children to use expressive language in joyful, contextualized ways. Teachers can further support expressive language through key pedagogical strategies that allow children to use and practice language. For example, think-pair-share activities provide a means for intentionally connecting thought and language and offer an opportunity for children to express their thoughts through a process of graduated risk: They first engage in self-talk, then talk with an audience of one, and then finally share with the full group. Some children may benefit from practicing social scripts, as in the "greeting game" or "compliment game," which provide opportunities to brainstorm and practice common, effective communication exchanges.

Finally, educators should be aware of general language development benchmarks and be alert to children's progress with them. Children who struggle with expressive language may need more targeted support. In many cases, children who exhibit language delays or disorders would benefit from the services of a speech-language therapist.

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See also Language Development; Language Development, Theories of; Literacy; Oral Language Development

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F

FAMILY CHILD CARE

Family child care is out-of-home paid care that is provided to a small group of unrelated children age 6 years or younger in a private residential home. The definition of family child care does not extend to unregulated, informal, or short-term care provided by a related family member, friend, or neighbor. In general, family child care homes provide care to six or fewer children age 6 years or younger. Large family child care homes, however, can serve up to 12 children and may employ additional staff to ensure that appropriate ratios are maintained. The maximum number of children served in a home-based setting varies by the age of the children and from state to state. This entry identifies the key characteristics of family child care and its potential effect on children's development. A summary of current research on topics of special interest to the area of family child care is also presented.

Overview

In the United States, parents of young children have three primary types of out-of-home care from which to choose: center-based child care, where children are grouped by age in classrooms (similar to school settings); family child care, where children are in a small mixed-age group environment; and nanny care, where one or two children are looked after in their own home.

An analysis of 1985 to 2011 U.S. Census Bureau data by Child Trends in 2013 indicates that approximately 14% of children attending some type of child care arrangement are in family child care homes. This number is expected to decline over time as the availability of center-based care increases. The unique home-like atmosphere and smaller group sizes generally evident in family child care make it a primary choice for many parents of infants and toddlers. Parents with more than one child, low-income parents, and single mothers are also more likely to use family child care than any other care option. Compared to families who choose center-based care, families who use family child care report more satisfaction with the type and quality of care provided. They describe it as available, affordable, and flexible to their needs.

Advantages of Family Child Care

Studies show that there can be a range of advantages to family child care. The type of intimate care provided in a family "home away from home" setting, for example, can offer a sense of safety and belonging for children and parents; unlike a center-based environment, children do not have to move to a new classroom when they achieve a particular developmental milestone or when they reach a birthday, and parents and children do not have to adjust to a new teacher each time a move is made. Since secure and continuous relationships

are demonstrated by research to provide the foundation for young children's healthy social and emotional development, family child care settings can be uniquely placed to nurture children's feelings of trust, comfort, and attachment. Moreover, when compared with center-based care where group sizes are often large, the small groups in a family child care home can seem less institutional.

An additional aspect of family child care that may present advantages is the natural opportunity for children to play with and learn from peers of various ages. Home-based child care closely matches heterogeneous family-like relationships. In this environment, younger children are more likely to be exposed to the complex language and play of their older peers, while older children can strengthen their knowledge and learning by teaching new skills to their younger counterparts.

Family child care settings also offer opportunities for children to develop and practice social skills. Children learn to differentiate their expectations as they interact and mix with peers of various ages whose development can fluctuate substantially. The mixed-age grouping invites children to learn skills such as patience, compassion, problem solving, negotiation, and compromise. Unlike in the more uniform structure of a child care center, children in a family child care setting are not grouped according to birth date; therefore, chronological age is less likely to become the single determinant of children's developmental level. Children have greater freedom to develop at their own pace. The caregiver (or provider) gets to know each child individually and is generally more accepting and tolerant of a greater diversity of maturity and performance. This factor may benefit at-risk children with behavioral or other challenges. In a small-group environment, children with developmental difficulties may receive more individualized attention and have opportunities to learn appropriate social and other skills in a noncompetitive way.

The Research Base on Family Child Care

All states regulate family child care. Individual states determine many aspects of family child care

functioning, including (a) whether homes are registered, licensed, and/or inspected to ensure that basic health and safety prerequisites are in place; (b) the number of unrelated children allowed to be cared for in the home environment; (c) the type and nature of professional development—from initial training (preservice) to annual training (in-service)—required of providers and staff; and (d) whether children are exposed to appropriate early learning experiences. These variances in conditions make evaluating the impact of family child care homes on children's healthy development and learning a somewhat challenging task. As a result, the majority of research investigating the impact of quality in the past has focused on licensed child care centers.

In recent years, however, attention has turned to examining the quality of family child care homes in detail. Outcome data from observational and standardized measures suggest that when compared with child care centers, family child care providers often do not provide the type and quality of experience that promotes young children's optimal growth and learning. Children who attend child care centers score higher on measures of language and cognitive development than those in home-based child care. Children who attend high-quality family child care score higher on measures of language development and displayed fewer behavioral problems than children who attend lower-quality family child care homes.

With regard to ethnicity, a study of Head Start family child care reported that the lowest-quality care was found in programs serving African American children; programs serving largely Hispanic children were of lower quality than those serving largely White children. Overall, only a small portion of family child care programs have been found to be of good quality; the majority provide mediocre or inadequate quality care.

The reason for this disparity in quality is multifaceted but may include the following:

Educational Level. There is an association between the level of general education and specialized professional development received by providers and quality of programming in family child care; more

education and professional development results in higher scores on global measures of quality and better outcomes for children. Providers in home-based settings often have significantly less formal education and fewer hours of ongoing professional development than child care center teachers. As a result, aspects of quality such as the richness of the learning environment and caregiver attention, responsiveness, and sensitivity can be negatively impacted. Children who attend programs where caregivers are not emotionally supportive or warm score lower on tests of language and cognitive development than their peers who attend programs with caregivers who presented with higher levels of sensitivity. These scores are not mediated by family income level.

Feelings of Isolation. Family child care providers are more likely to be caring for children in their own home. They work alone and play multiple roles throughout the day. As a result, providers do not consistently experience the type of performance-improving feedback and support from peers, supervisors, mentors, or coaches that teachers in other settings receive. This lack of a social network can create feelings of isolation and can contribute to provider stress. Providers who have access to support services in the form of a family child care association or a similar organization are more sensitive and responsive to children's needs and score higher on measures of quality.

Attitude and Commitment. The level of dedication to the field of early care and education has been demonstrated to predict higher-quality family child care programming. Those providers who genuinely like working with children and who take a professional approach to their role are more likely to feel satisfied with their career choice. They are more likely to seek and access professional learning opportunities, plan and implement appropriate curriculum, and find other providers. A positive attitude and commitment to the field of early care and education influences family child care provider interactions with children. Stress and turnover are reduced.

Regulation by Outside Agencies. Many states fail to require the same elements of program quality such as developmentally appropriate principles and best practice in early childhood education that are mandatory in center-based care. When standards are not explicitly expected, quality curriculum can, at best, be left to chance.

Conclusion

The impact of low-quality family child care learning environments can be long-lasting. While family child care is distinguished from other forms of out-of-home care in that it supports small, intimate, multi-age groupings, the quest for quality remains an elusive ideal in many settings. Initiatives by policy makers, child care managers, family child care administrators, and others need to venture beyond examining or regulating basic criteria such as licensing and qualifications. It is vital for children's optimal growth and development that they receive high-quality experiences and interactions throughout the day, regardless of the type of early care and education setting.

Indeed, consistent with the type of standards expected in regulated child care centers, family child care programs should demonstrate that a daily schedule and planned learning activities in the form of a curriculum plan are evident and implemented. Schedules should be responsive to children's needs, a daunting task when a diverse range of ages must be considered and accommodated. Curriculum activities should provide appropriate stimulation and be aligned with evidence-based learning objectives. Most essentially, provider-child interactions must be positive. Positive interactions have been demonstrated by research to provide a secure foundation on which future learning is built. Finally, the family child care learning environment must at all times meet (and, if possible, strive to exceed) the highest standards of safety and health.

Lorraine Breffni

See also Center-Based Care; Child Care; Early Childhood Education; Infant and Toddler Programming; Multiage Education; Quality

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FAMILY ENGAGEMENT IN CURRICULUM

Family engagement, or the myriad ways in which parents support their children's education, is a multidimensional construct that encompasses parents' activities at home, at school, and in the community. Family engagement has been linked to both academic and social-emotional outcomes for students across grade level, racial/ethnic group, and community type. Moreover, benefits of family engagement during the preschool and early elementary school years appear to have long-lasting effects, linking to positive outcomes in high school and early adulthood. Research suggests that promoting positive family engagement early in children's education might help address achievement disparities between low- and middle-income children and between dominant and nondominant ethnic groups. For this reason, programs like Head Start, the largest federally funded early childhood intervention program serving low-income, ethnically and linguistically diverse families with young children, have prioritized family engagement within their core mission (e.g., H.R. 1429; U.S. Department of Health and Human Services, 2007). However, the question of what counts as meaningful engagement among socio-culturally diverse families and what family engagement supports are most effective remains an important question.

During the early childhood years, home-based engagement activities might include helping children develop pre-academic skills (such as counting and recognizing the alphabet), creating a space for them to engage in learning activities at home, taking them to places in the community to learn (e.g., museums, the library), and reading to them. School-based engagement typically includes activities such as attending parent-teacher conferences, having regular forms of communication with the teacher, or volunteering in the classroom. Parents who are involved in their children's education both at home and at school in these ways have children who demonstrate greater levels of academic success, such as better school attendance, higher levels of

motivation toward learning, greater social competence, and overall higher academic performance, including reading and math achievement. It is hypothesized that through these types of participation in children's schooling, families socialize their children to value achievement by modeling and reinforcing pro-academic behaviors. For example, when parents engage in educational activities with their children at home, they communicate clear expectations for achievement and often integrate school curriculum goals within home routines. A second hypothesized pathway through which family engagement may support children's school success is by promoting positive affect and self-efficacy for achievement.

Although research has acknowledged the multidimensionality of family engagement, most studies continue to focus primarily on school-based participation. One explanation for the predominant focus on facilitating school-based participation is that through school contact, parents gain valuable information about how to engage their children at home; thus, school contact serves as a precursor to home-based engagement. However, for many low-income, ethnic minority and immigrant families, educational, cultural, and language divides likely lead to a preference for home-based engagement, which might manifest in culturally specific educational involvement behaviors that remain largely unaccounted for and invisible. Though there may be great value in the kinds of school-based activities typically represented in family-school connections research, what some scholars are calling for is greater understanding of the ways in which these activities are also relationally situated. They have pointed to the need for research concerning *co-determined* activities and those that reflect the notion of shared responsibility among educators and families, as well as more research on constructs such as *joint engagement* between teachers and parents. This fundamental shift to a relational approach brings into focus the need for a radically different orientation toward the issue of family-school connections, as well as the need to reconceptualize current delivery models of family engagement programming. Family engagement in early childhood curriculum, the topic of focus

here, represents one potential avenue by which the relationship between families and teachers may be enhanced and leveraged to foster culturally relevant curriculum in the classroom.

Family Literacy as an Approach to Engaging Families in Curriculum

Pioneering work in family literacy was conducted in the 1980s to develop a two-generation strategy to support children who were living in poverty and who had parents with low levels of literacy. Family literacy programs include literacy-rich programs for young children, literacy development and education services for parents, and interactive literacy activities involving both parents and their children. A large body of research has demonstrated that such programs can result in positive effects on children's language and literacy development. For example, family literacy programs may change the way parents interact with their children's preliteracy development by helping them tell richer stories or by repeating and expanding on their child's utterances in everyday conversations. In addition, research has shown that literacy is an area of curriculum where schools can meaningfully engage parents by facilitating activities that connect children's in-school and out-of-school experiences. Immigrant parents have been especially encouraged to participate in these programs in order to gain literacy skills in English and perhaps their home language, as well as to acquire navigation strategies that can increase their access to resources to foster their children's learning.

For example, Ada and Campoy created a program, called *Authors in the Classroom*, to invite students, family members, and teachers at all grade levels to share their ideas and cultural stories through poems, stories, photo essays, and books. Teachers encouraged family members to write in their home language; if parents did not feel comfortable writing, their children helped them write stories or tape-recorded them, so that children could hear their own parents' voices in the classroom. This program facilitated a way for immigrant families to be a part of the children's learning

community while not having to be physically present. Their stories became classroom books with contributions from all children and families. Furthermore, this program helped teachers foster dialogues with their students and families that helped build meaningful relationships with families from a variety of cultural heritages.

Another example is the Home School Knowledge Exchange (HSKE) project, through which an effective two-way communication between home and school was developed and implemented. As part of the HSKE project, teachers sent children home with an empty shoebox. Parents were encouraged to work with their children to decorate the box and fill it with items that were special to them (e.g., photos, writing, postcards). After the shoeboxes were returned to school, teachers incorporated children's unique home cultures and personal stories across the curriculum via creative writing, observational drawing, and student presentations. For example, children took turns presenting to the class why they had chosen particular artifacts. Teachers then encouraged children to use their artifacts in their writing and drawing collaboratively with peers. Their completed work was word-processed, spiral bound, and became their own personal books, which then were sent home to be shared with their parents. This activity allowed students to bring aspects of their home lives into school, and allowed teachers to become more knowledgeable about children's out-of-school interests and home cultures, incorporating them into the formal curriculum.

Family Funds of Knowledge

Teachers' efforts to engage families in early childhood curriculum have also been highly influenced by the work of Luis Moll and colleagues, who coined the concept "family funds of knowledge." Family funds of knowledge are defined by Moll and his colleagues as "[the] historically accumulated and culturally developed bodies of knowledge and skills essential for household or individual functioning and well-being" (p. 133). Essentially, students' families' funds of

knowledge are viewed as valuable resources to help teachers better understand children's lived experiences and develop culturally relevant curriculum. The following hypothesized pathway has been posited: When teachers link new information to students' prior knowledge, experience, and home and family activities, they motivate students' interest and curiosity, imbuing the classroom curriculum with a sense of purpose. This particular work challenges expectations about traditional forms of family engagement and delineates various ways by which teachers can become ethnographers to learn about children's homes, cultures, and communities in order to reflect this knowledge in their classroom curriculum. Moll, Amanti, Neff, and González view children's households as "containing ample cultural and cognitive resources with great, potential utility for classroom instruction" (2005, p. 75). Therefore, the concept of family funds of knowledge enables teachers to move away from "thin" and "single-stranded" relationships with children and their families and helps them to create a culture-sensitive curriculum.

As an example of researchers and teachers attempting to access families' funds of knowledge, Norma González and her colleagues collaborated with teachers to visit families' homes in order to have open conversations, learn routine household activities, and listen to parents' views of their roles in children's learning. The study emphasized the importance of building trust with families and highlighted that teachers can play a critical role as a bridge between the students' out-of-school lives and the classroom experience. More recently, applying a funds-of-knowledge approach, Gregg, Rugg, and Stoneman presented their *Míreme* [Take a Look at Me] project. In this project, researchers initiated focus groups with Latino families to encourage reciprocal dialogue between teachers and families. The project underscored the importance of listening to the voices of families (e.g., their unique culture, familial background, resources, insights, strategies) by placing teachers (rather than parents) as the recipients of information. Both of these studies underscored the importance of home-school communication in order to

bridge the gap between teachers and parents and, more importantly, encourage teachers to look at families' funds of knowledge as legitimate sources of information for building curriculum.

Parents as Co-Teachers/Co-Educators

Studies have also documented the benefits of teachers co-teaching with parents, an activity that encourages teachers to come to view parents as equal partners and leaders in their children's education. Most recently, Tazi, Gunning, and Marrero implemented a pilot program that incorporated parents as co-teachers to support young children's STEM (science, technology, engineering, and mathematics) learning. The Parents-as-Coteachers Program included two evening sessions that exposed parents to the process of facilitating a child's STEM learning. In these two sessions, parents and teachers discussed the four disciplines of STEM and teachers modeled an activity that parents could do at home with their children. Parents reported seeing the value and responsibility of co-teaching STEM subjects to their children, as well as reported having learned the importance of satisfying children's curiosity in order to enhance STEM learning.

Taking this notion of parents as co-teachers a step further, in a study by Loizos Symeou, teachers invited parents into the classroom to co-create children's learning activities, to co-develop a set of guidelines for parents' participation, and then to co-teach in the classroom. Through surveys and in-depth interviews with parents and children, the findings showed how relationships among teachers, parents, and children were enhanced. For example, based on parent interviews, parents reported that they enjoyed the opportunity to learn about their children's lives at school and also came to trust the teachers more. Teachers added that they learned to value families' cultural knowledge and thought about how to use that knowledge more in their everyday teaching. Overall, teachers and parents developed stronger relationships, as well as a sense of being part of a community with similar goals, aims, and concerns for children.

The RISE Project

Consistent with the approaches discussed above, in partnership with a large, urban Head Start program, McWayne, Mistry, Greenfield, Brenneman, and Zan have set about the work of co-constructing with teachers and parents an integrated science, technology, and engineering (STE) curriculum for preschool-age dual language learners through the Readiness through Integrative Science and Engineering (RISE) project. The RISE project underscores the importance of families' contributions to their children's learning, the value of a school curriculum that reflects children's existing knowledge or prior experience, and the importance of a positive and non-hierarchical relationship between parents and teachers.

The RISE project approach is based on the premise that by understanding and appreciating the knowledge and support already available to students at home and in the community, teachers can make connections between these experiences and the classroom curriculum in ways that are truly powerful for students. The Home-School Collaboration (HSC) component of RISE specifically invited immigrant Parent Leaders to join in the process of curriculum co-construction with teachers. One of the strategies to facilitate this type of relationship was to first have discussion meetings with Parent Leaders to create a comfortable space for them to share information and strengthen their leadership skills, as well as to work with teachers separately to help them recognize the power imbalances inherent in the teacher-family relationship and to be able to create a space where reciprocal dialogue with parents could occur. A second strategy involved having parents and teachers engage in joint activities together to build trust (e.g., co-construct cultural features of children's communities using recyclable materials; create a scrapbook of children's activities at home and in the classroom titled "Our Children's Worlds"). Once balanced relationships between teachers and parents were established, teachers came to understand more about children's lived experiences, giving them an increased ability to draw on children's existing knowledge and skills and families' funds of knowledge when designing their STE

classroom curriculum. Emerging evidence suggests this approach has been successful in connecting children's out-of-school experiences within the classroom, as well as connecting teachers and families in reciprocal dialogue.

Conclusion

A one-size-fits-all model of family engagement is not likely to meet the needs of the diverse families served by early childhood education programs across our country. Economic and cultural differences between families and educators often translate into significant discontinuities between home and school contexts. Conflicting values, socialization goals, role demands, and communication expectations and styles can place young children at risk for difficulties as they traverse between the two settings. Despite the fact that many educators agree family-school partnerships are important, as Mapp and Hong report, they often "harbor beliefs, attitudes, and fears about families that hinder their ability to cultivate partnerships" (2010, p. 346). These realities foster disconnection and disengagement between families and schools, and these significant gaps between educators and families need to be better understood to inform our intervention efforts.

Engaging families in the curriculum of the early childhood classroom, in the ways presented here, may be particularly effective for (a) developing parent-teacher relationships built on trust and equal respect, (b) creating curriculum that is culturally responsive and engaging for children, and (c) addressing barriers to family engagement often experienced when mainstream expectations for parental involvement are the only normative reference. It is our view that the field needs to move beyond superficial ways of incorporating families' culture into the classroom (e.g., the "tourism" approach) and develop more meaningful ways to engage families in the formal curriculum of the classroom. There is a specific need for culture-contextualized ways of understanding bridge-building with respect to families. Finding ways to connect families' funds of knowledge and expertise to the classroom, while supporting their own efforts at

home with their children, appear to be promising avenues. Fostering two-way dialogue between parents and teachers, such that teachers may have access to the rich cognitive and cultural resources of families, while also coming to view families as equal partners, also holds great promise for advancing children's learning in the diverse socio-cultural contexts that characterize the landscape of children, families, and schools across our nation today.

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See also Family Strengths; Funds of Knowledge; Parenting Support and Education; Parents as Teachers

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FAMILY ENGAGEMENT MODELS

The term *family engagement models* refers to the various approaches to engaging families in early childhood education settings. Family engagement is typically defined as a reciprocal partnership between families and programs focused on supporting children’s healthy development and learning. Research has shown that family engagement contributes not only to children’s developmental growth and early learning but also to improved

parent and family outcomes. Family engagement is considered a key dimension of early childhood education quality. However, research has identified gaps between the desire to engage families and actual practices in early education programs. Various models have been developed to guide and support efforts to understand and implement family engagement. This entry provides a brief history and definition of family engagement models, describes the research and theoretical foundations for the various models, and describes some contemporary applications and future directions for family engagement.

History

Family engagement has a long history in the field of early childhood education. In the 1960s, the federal Head Start program developed one of the field’s most prominent models of family engagement. The Head Start family engagement model required parental involvement both in the classroom and in decision making, and also included a range of family support services. Family child care and community-based early care and education settings have also been touted for their successes in promoting strong parent–provider partnerships through a more informal model based on reciprocal relationships between providers and parents that are built on trust and mutuality.

The importance of family engagement for positive child and family outcomes has been widely documented in the research and practice literature. State and national standards for high-quality early education consistently include family engagement as a core component of quality. The more recent attention to school readiness and preventing the achievement gap has ushered family engagement to the forefront again. It is now widely recognized that family engagement in early education can contribute to the improved school readiness of young children.

Conceptual Models of Family Engagement

The term *family engagement* is frequently used as an umbrella term encompassing a range of approaches or conceptual models for engaging and

partnering with families in the early childhood education context. *Family involvement*, *family partnerships*, *family-centered care*, *parent leadership*, and *family-sensitive care* are all conceptual models for family engagement. Each model has unique and defining characteristics. At the same time, each also shares some characteristics with one or more of the other models.

Key defining dimensions of a family engagement model include (a) how family engagement is defined and (b) the nature of the relationships between families and educators. Some models define the purpose of family engagement in a narrow manner, for example, as applicable specifically and only to the goal of improving children's academic outcomes. Other models define a broader purpose that includes family outcomes such as parental resilience, parenting knowledge, and family well-being. The models also vary in the way that parent-teacher/provider relationships are conceptualized. For example, is the teacher considered the expert in the relationship, or is expertise shared equally, with parents being the expert on their child? Similarly, is power shared between parents and educators, do educators hold the most power, or do parents take the lead? Five models of family engagement are described in this section, highlighting in each how family engagement is defined and how the parent-teacher/provider relationship is conceptualized. Examples of programs that reflect the various models are also identified.

Family involvement is often thought of as the traditional model of engaging parents to support children's learning and academic progress in school. Its focus is on children's academic achievement and how parents can help educators achieve the desired outcomes for children's learning. For example, in a family involvement model, parents are encouraged to attend parent events and meetings, volunteer at the education program, and act as a supportive partner with the child's teacher to foster the child's learning and success in school. Traditionally, this model has reflected an orientation toward the ways parents can help to support children's learning. This is a common approach in K-12 schools and formal early childhood education programs. More recently, this model has been

broadened to reflect a two-way (rather than one-way) relationship, focused on both how the family contributes to supporting the school and how the school can support the family in fostering their children's learning.

This shift to a broader understanding of family involvement may be better reflected now in the *family partnership* model of engagement. This model is broader than just family involvement, and more reciprocal. It focuses on the two-way, reciprocal relationship between families and educational programs. Family partnerships include what school personnel can do and what parents can do, in the home, school, and community contexts. The model also adopts a strength-based approach that recognizes family assets and the need to establish mutually supportive relationships.

Family-centered care is a strength-based, collaborative, consumer-driven model of family engagement. The family unit is the focus here, and children are seen as embedded in the context of their family. In this model, families are seen as holding expertise and the right to make decisions affecting their child. The family context, strengths, culture, and perspective are highly valued. In the family-centered approach, families need not fit into a predetermined or one-size-fits-all program or policy. Instead, services and engagement efforts are flexible and responsive to families' needs and strengths. Family support programs often fit within this model. Family support in education settings engages families through a strength-based approach to foster protective factors that promote healthy child development and family well-being. Family-centered care has been a dominant model in early childhood special education, early intervention, and inclusive educational programs, as well as in other related fields such as social work.

Parent leadership is a model based on family empowerment. Parents and families take the lead on establishing equal partnerships with early education programs to promote child and family well-being. Parents develop skills, knowledge, and networks to be effective leaders and advocates. They take the lead on convening and engaging other parents and educators. In this model, parents rather than professionals play the key role in

setting the goals and agenda for family engagement. Parent leadership during the early childhood years is thought to set the stage for increased parent involvement and leadership as children continue on through their K–12 schooling. One well-known example of the parent leadership model is the Parent Services Project based in California.

Family-sensitive caregiving is the newest model of engagement. This model differs from the others with its dual focus on supporting child outcomes as well as supporting working families. Family-sensitive caregiving emphasizes the important role of early childhood education programs in supporting parental employment and the coordination of work and family. The field of early care and education has a long history as a support for working families, and particularly for working mothers. In order to work, parents need a safe, affordable, high-quality child care arrangement that is available during all the hours parents must work. Family-sensitive caregiving therefore includes a focus on responsiveness and sensitivity to families' work-related needs. For example, early education programs might offer flexible scheduling, informal social supports, and nontraditional operating hours. This model is based on the idea that sensitivity to family needs can reduce stress and strengthen parenting and family well-being. At the same time, it also focuses on engaging with families to support children's healthy development and early learning. This model is the most holistic or inclusive in the scope of its intended impacts.

Contemporary Issues and Applications in Early Childhood Education

Two current issues facing family engagement models are enhancing cultural competence and quality improvement. First, the rapidly growing cultural, linguistic, and family diversity in the United States requires that early childhood education professionals and programs possess a high level of cultural and linguistic competence and proficiency. These competencies are especially important for effective and high-quality family engagement in all of the models presented here. As

a result, growing attention has been paid to strategies for increasing educators' knowledge and skills for cultural competence. Many contemporary efforts to promote family engagement address the importance of cultural and linguistic competencies needed to effectively engage diverse families. For example, Skilled Dialogue is an approach to effectively engaging with families developed by Isaura Barrera. This approach focuses on the importance of honoring diverse perspectives and cultural values. Skilled Dialogue identifies and describes a set of professional dispositions and strategies needed to engage in respectful, reciprocal, and responsive dialogue across differences in ways that result in positive interactions and outcomes.

Quality improvement is another important issue for all the family engagement models. Research indicates a need to improve the quality of family engagement in early education programs. Therefore, it is important to consider various approaches to improving quality. What do individual educators and parents, schools and early childhood programs, and systems need to know and be able to do in order to deliver high-quality family engagement? Research suggests that establishing effective partnerships with families depends upon early educators who have the appropriate attitudes, knowledge, behaviors, and skills. Attitudes associated with effective family engagement include respect and commitment to partnering with families. Knowledge includes knowledge of individual families served, as well as knowledge of family systems, parenting, and cultural competence. Behaviors, skills, and strategies that are effective in engaging families are also essential. These include welcoming families, creating space for families to gather comfortably, greeting each family member by name, and establishing regular two-way communication with families.

In the past, quality improvement typically focused on improving the preparation and training of teachers. However, this individual focus often failed to produce the desired outcomes, largely due to the lack of attention to organizational and systemic barriers to implementing these new practices to improve family engagement. An emerging

evidence base suggests that the organizational culture and its leadership must align with and actively support the implementation of new practices in order to be effective. Teachers work in the context of an organizational system. That system, and all its members, needs to be on the same page in order to effectively engage families. This has led to the emergence of more comprehensive, systems approaches that provide interventions at the individual and organizational levels. This shift from an individual focus to an organizational or system focus represents a major shift for family engagement implementation and improvement.

Anne Douglass

See also Family Engagement in Curriculum; Family Partnerships; Family-Centered Practices; Framework of Six Types of Involvement; Parenting Support and Education

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FAMILY HEALTH

Family health can be defined broadly to include all of the factors that influence a family's functioning. It can include such areas as physical and mental health, financial status, stress, nutrition, access to food and medical care, and many others. The World Health Organization (WHO) defines the determinants of health to include the social and economic environment, the physical environment, and the person's individual characteristics and behaviors. A consideration of family health is important for the study of children because family has been shown to influence the development of children. This entry identifies various parental factors that influence family health and child development.

The environment in which we live shapes our lives. For example, during pregnancy, the mother's body is influenced by effects within her environment. Her level of stress, nutrition, alcohol or drug consumption, and exercise all have the potential to alter the development of her unborn child. In this context the mother is the child's environment. Those things that impact the mother have the possibility to influence the child's development. So where we live matters. The cities, towns, and neighborhoods matter. Access to clean, safe water and fresh air are important and have the potential to impact the health and development of children and adults.

Families are the primary environment for the development of young children. Healthy families have several traits that have been identified by

Dolores Curran and are frequently used in the research literature:

Healthy families have good communication.

Healthy families display mutual affirmation and emotional support to foster individual self-esteem.

Healthy families have a constructive sense of humor and play together.

Healthy families share responsibilities, teach the difference between right and wrong, and have a strong sense of family traditions.

Healthy families foster regular dinner-time conversation and share some leisure time. They seek outside help when problems arise.

When family members evidence these traits and create a healthy environment at home, they are helping children form a strong foundation for their mental health. Parenting behaviors are a critical factor in child development.

Family health refers to the status of a family's well-being. Research shows that a family member's health status is related to a child's development.

The mental health of parents, especially mothers, has been the topic of much research. Maternal depression has been of particular interest. Its symptoms (sadness, negative affect, loss of interest in daily activities, fatigue, and difficulty thinking) are especially troublesome for infants and toddlers. Responsiveness is of particular concern, as mothers with depression are not as responsive to their babies as nondepressed mothers. Over time the lack of consistent interaction can have negative outcomes including delayed cognitive and language development, as well as difficulties with attachment.

Physical health is also a factor in child development. Previous research has shown that parents who have higher levels of education may be better informed about the availability and use of health care and, perhaps also, have better health behavior that confers benefits to their children. Mothers who are in good to excellent health are more likely to have healthy children. Low-income families are more likely to have children with serious health problems.

Parents are seen as the gatekeepers for many things related to their children. One of the most important of these involves choices made regarding nutrition. Food choice and meal planning can be helpful in family health for several reasons. When a parent has knowledge of healthy food selection and food preparation strategies he or she can make wise food choices and control the foods coming into the house, structuring the options available for the child to consume. Further, a parent's awareness of healthy food choices will likely inform the choices that the parent makes regarding food consumption, modeling for his or her child a healthy meal pattern and eating practices.

Anne K. Bomba

See also Family Life Education; Family Strengths; Healthy Choices and Young Children; Nutrition; Parenting Support and Education; Partnership Transitions

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FAMILY LIFE EDUCATION

Family life education refers to instructional efforts to support healthy functioning of families through preventive approaches whenever possible. The National Council on Family Relations (NCFR), a professional association for multidisciplinary understanding of families, has led the field with the establishment of a national certification for family life educators. Since research has consistently indicated the effectiveness of family engagement in children's

early learning, this entry is written to demonstrate key details about family life education and ways that it links to early childhood education.

Overview

Family life education is viewed as a multidisciplinary profession, thus practitioners come from a variety of backgrounds, including but not limited to family studies, human development, family and consumer science, sociology, social work, psychology, nursing, counseling, and early childhood education. Although each educator is likely to have specialized skills based on his or her professional preparation and experience, the certification process through NCFR requires broad-based content knowledge in order to gain certification as a family life educator. Certified Family Life Educators (CFLEs) must demonstrate knowledge in 10 content areas:

1. Families and individuals in societal contexts: parent–child relationships, work and family concerns, and cultural variations
2. Internal dynamics of families: family stress and crises, special needs in families, parent–child relationships
3. Human growth and development across the life span: developmental change in all family members, processes of child development including physical, cognitive, social, emotional, and moral
4. Human sexuality: reproduction, biological determinants of human development, interpersonal relationships
5. Interpersonal relationships: communication skills, conflict resolution, decision making
6. Family resource management: ways that families allocate resources, consumer issues, environmental factors
7. Parent education and guidance: parenting rights and responsibilities, variations in parenting, parenting practices
8. Family law and public policy: social services, education, civil rights
9. Professional ethics and practice: social attitudes and values, respecting diversity, consequences of value choices
10. Family life education methodology: planning and implementing, evaluating, sensitivity to diversity

Although it is possible for professionals to refer to themselves as family life educators without having earned the NCFR certification, those who hold a national certificate have proven themselves through a meticulous screening process to have depth and breadth in their understanding of family functioning and issues. In addition to content, CFLEs are expected to possess strong communication skills, good decision-making skills, positive self-esteem, and an ability to form healthy interpersonal relationships. Further, CFLEs understand that issues within the context of the family are best addressed from a systems perspective—seeing families as one part of the larger society.

Formats for family life education vary and include sessions for groups of learners in a classroom-type setting, educational materials such as flyers or booklets, and technology-based instruction. As indicated by NCFR, family life education is applied in three categories: practice, administration, and promotion or advocacy. Family life educators who engage as practitioners are likely to teach or create programs and curricula; those who administer will typically manage, organize, or coordinate programs; and those who promote are advocates for public policy changes and awareness campaigns. It is possible for a family life educator to occupy more than one of these roles at a given time. For example, a director may coordinate a parenting support agency, lead an educational program for foster parents, and advocate for public policy that increases support for foster families.

Links to Early Childhood Education

Early childhood teacher certification preparation programs typically would address only a few of the family life education content areas. Generally, significant attention is given to child development, at least through age 8 years, with some programs

requiring a life-span development perspective. Variations in the breadth and depth of consideration provided to family engagement in early childhood education and educator preparation have been well established. Some early childhood teacher candidates are prepared to understand families in the context of society as well as internal dynamics of families. Strong preparation programs highlight cultural variations and implications for working with diverse families and working with the special needs that exist within families, such as effectively teaching a child who has been identified with a serious disability or medical condition. On the other hand, some early education teacher preparation programs gloss over these family life education content areas and emphasize practices such as parent-teacher conference strategies.

The topic of ethics for early childhood professionals has a different focus than is appropriate for family life educators. Emphasis in early childhood education is on teaching children, whereas family life educators are most often teaching adults. However, commonalities for the two professions exist in relation to respecting diversity, sensitivity to individuals, and applying current knowledge regarding best practices.

Although teachers of young children are expected to have skills for effective interpersonal communication, few certification programs provide explicit instruction in effective communication. Many expect that teachers will gain communication skills through practical experience such as student teaching or internships. Understanding parenting is another content area that is often not explicitly addressed in early education teacher certification programs, leaving the topic wide open for teacher biases from limited personal experience.

The remaining content areas, not surprisingly, are rarely included in early childhood teacher preparation: human sexuality, family resource management, family law and public policy, and family life education methodology. These family life education content areas focus more on adult family members or family units, and early education teacher preparation will have greater attention to

planning, teaching, and assessing young children's learning and development.

Strategies for Infusing Family Life Education Into Early Childhood Education

Most preparation programs, early childhood centers, and schools give little attention to family life education in initial licensing or continuing professional development of early childhood educators. For this reason, recommended strategies herein involve various ways to work with one or more family life educators and to support early childhood teachers in applying family life education strategies.

- Hire a family life education consultant to provide support for early childhood teachers as they work to effectively engage families in their children's education.
- Provide professional development support for early childhood teachers to complete coursework or other available training related to family life education.
- Hire a family life education consultant to collaborate with early childhood teachers as they jointly lead valuable programs for parents and/or other family members.
- Encourage early childhood educators to search for family life education topics online, particularly fact sheets created by Cooperative Extension child development and family experts.
- Encourage family life educators to have depth in the area of family engagement in children's education by reviewing evidence from family involvement literature regarding successful practices, from family partnership research such as that available on the Harvard Family Research Project website, and valuable programs such as nurse-family home visiting.

Donna Couchenour

See also Family Engagement Models; Family Partnerships; Family Strengths; Family Systems Theories; Family-Centered Practices; Framework of Six Types of Involvement; Home Visitation With Mothers and Infants and Children

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FAMILY LITERACY MOVEMENT

Family literacy refers to parent/family interactions with children occurring at home or in the community that support the child's early literacy learning. Contemporary educational research provides evidence that all parents and families are capable of contributing to the early literacy growth and development of children. The manner in which parents define their roles might differ according to prior formal education experiences, cultural models, discourse practices, and aspirations for their child. This entry discusses the growing prominence of family literacy research across multiple disciplines, the theoretical shift that has occurred within the field of family literacy research, and

how this shift has created a space to consider families' cultural literacy practices. Particular attention is afforded to the discussion of current research findings related to family literacy.

Overview

Children live their lives in two worlds—the first world consisting of home and community, and the second consisting of the school. When these worlds fail to recognize and appreciate each other, children experience challenges as they negotiate these differing worlds and the literacy practices that they teach and promote. The field of family literacy examines the variables arising from these two worlds that influence a child's early literacy acquisition and development.

Many contemporary family literacy scholars have attested that family literacy is not defined by a single, narrow definition since that would not fully address the complexity of families and the multiple literacies that are part of their daily lives. Scholars from the disciplines of literacy, early childhood education, educational psychology, sociology, and anthropology strive to further the collective understanding of the complexities of family literacy. As such, family literacy has currently come to be widely interpreted, ultimately being defined in a manner best fitting the discipline and context in which it is being applied. In addition, major research findings pertain to a variety of populations, including (a) families with children who have disabilities, (b) families who represent culturally marginalized groups, (c) families who primarily speak a language other than English, and (d) mainstream groups.

Research

The study of family literacy was a very polarizing field of study at its inception in 1983 when Denny Taylor published her dissertation, *Family Literacy: Young Children Learning to Read and Write*. Early family literacy research tended to portray differing family literacy practices as deficits to children's early literacy learning. Recently, a shift has occurred within the field so that these

differing family literacy practices are now more readily viewed as enriching rather than detracting from early literacy learning. Despite the controversy within the field regarding the nature and value of differing family literacy practices, family literacy has been an ever-present influence on the early literacy development of children.

Contemporary family literacy research has predominately focused on specific literacy interventions, the home literacy environment, or parent-child interactions during shared book reading or shared writing. Some of the major research findings relevant to these foci of family literacy research include the following:

- Family literacy intervention programs differ in purpose since they tend to be designed according to one of the two following models: (1) the *deficit model*, which focuses on changing family literacy practices so that they align with formal school literacy practices, or (2) the *enrichment model*, which uses family literacy practices as a foundation for building new literacy knowledge.
- Home literacy environments supportive of early literacy development incorporate (a) multiple opportunities to share readings between adults and children; (b) access to literacy resources and materials; and (c) quality interactions that support development of oral language, print knowledge, and word recognition skills.
- Factors influencing the frequency of parent-child interactions during shared book reading, shared writing, or other literacy activities include socioeconomic status, level of parents' education, and if parents were English language learners.

Even though many family literacy scholars have shifted their view of differing family literacy practices, there are still limitations in family literacy research. One prominent limitation is the continued tendency for research studies and intervention models to prefer literacy practices and interventions aligned with school literacy practices. This has resulted in a limited number of studies that thoroughly examine families' culture and literacy practices and how these practices, even though

different from school literacy practices, contribute to a child's literacy acquisition and development within school contexts. Guofang Li and Luis Moll are two scholars who have suggested research approaches that support study of families' culture and literacy practices and the contributions they afford to early literacy development.

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See also Diversity in Early Education; Dual Language Learners, Strategies for; Early Literacy Development; Funds of Knowledge; Literacy

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FAMILY PARTNERSHIPS

Family partnerships are one approach to develop family involvement in a child's education. Family partnerships focus on creating close working relationships between a teacher or other program staff member and a child's parents (or other primary caregivers, such as grandparents.). The partnership approach to family involvement is valued because such relationships among family members and teachers rely on adults working toward common goals for children, require communication and collaboration, and imply that while partners may bring different contributions, all partners are accountable for maintaining the relationship. In early childhood settings, partners work together primarily to support the optimal development of children.

The broader concept of family involvement and the more recently discussed concept of family engagement have long been identified as an important influence on children's success in school, with a plethora of research finding strong correlations with parent involvement and the children's academic performance. This finding holds even when factoring out such confounding variables as income, maternal education, and other demographic indicators. Traditional concepts of family involvement, however, focused primarily on the family in the service of the school; examples include parents volunteering at school, parents as audience members at school events, parent attendance at parent-teacher organization events, and families assisting with fundraising.

More refined research findings have been interpreted to suggest that perhaps it is not so much a family in service to the school that supports their child's success, but a family's involvement with their child's education. For example, children are more successful in school when the family holds high, yet developmentally appropriate, expectations for the child's performance and when the family provides experiences in support of learning such as community outings and reading to the child at home.

Theoretical Foundations for Family Partnerships

Family partnerships are supported by Urie Bronfenbrenner's bioecological model of development. This theoretical approach suggests that the child rests at the center of five systems—the micro-, meso-, exo-, macro-, and chronosystem—and that each of these systems directly and/or indirectly impacts the child's development. The microsystem in this model refers to the different structures or institutions that have direct interaction with the child, essentially societal structures that daily “touch” the child; these include the child's family, the child's school, the neighborhood where the child lives, the peers the child plays with, and possibly the family's church. The mesosystem refers to how these direct influences on development interact with each other to influence the individual's development; the mesosystem is composed of the relationships among the structures of the microsystem. Exosystem includes the larger institutions and structures that influence but do not directly interact with the individual (for example, adult family members' work environments and local school board policies). The societal beliefs and values that provide a sociocultural context for all of these structures is the macrosystem; society's values and culture indirectly impact a child's development. Chronosystem denotes the events that occur over the lifetime.

Family partnerships epitomize the mesosystem as they describe the relationship between the family and school, two important microsystem structures. Bioecological theory posits that the better the relationships within the mesosystem, the more positive the impact on the individual's development. If this theoretical approach holds true, strong family partnerships are an important method to support children's positive developmental outcomes.

Family systems theory also plays a part in providing a theoretical foundation for family partnerships. Systems theory, built on the assumption that the whole is greater than the sum of its parts, posits that what impacts one part of a family (system) impacts all parts of the family (system). Therefore,

if there are family stressors (e.g., unemployment, illness, emotional stress) that impact the family as a whole, these issues also directly or indirectly impact the child. Improving the family's overall status should then improve developmental outcomes for the child. Family partnerships often provide a context in which the concerns of the family as a whole may be addressed as well as concerns specific to the child being served by the program.

Early Childhood Education and Family Partnerships

Partnering with families is a central pillar of developmentally appropriate practices in early childhood education. Due to the vulnerable nature of a young child, communication among all those who care for the child is important to facilitate the child's daily care and optimal development. Family members and program staff provide differing perspectives of the child. While teachers and other early education professionals bring an expertise and knowledge base to their observation of any child, family members bring expertise on the individual child.

National Association for the Education of Young Children's Developmentally Appropriate Practice Position Statement

In 2009, the National Association for the Education of Young Children (NAEYC) published a third edition of its position statement on developmentally appropriate practice. Several aspects of the position statement address the importance of family. For example, understanding the child and family's social and cultural contexts is a core consideration. As described earlier in the bioecological macrosystem, the cultural context has a strong influence on the child's development. Family partnerships allow families and programs to share information so that both partners can better understand the influence of culture on the child.

This partnership may be even more important for instances when there is limited cultural commonality among the family and program staff

members. Opportunities to interact in a true partnership give all partners the potential to better understand different cultural values and practices. Better understanding of a child's cultural context on the part of the program staff should lead to improved outcomes for the child.

Another guideline for developmentally appropriate practice that indicates the importance of family partnerships is found in Guideline 2, Teaching to Enhance Development and Learning, and Guideline 4, Assessing Children's Development and Learning. Teachers are responsible for getting to know the children in their care and the people most significant in the child's life. The teacher has the responsibility to help the family understand the child's developmental levels, strengths, and challenges. Best practice for the assessment of the child in the early childhood setting also requires a strong teacher-family relationship. Families should be involved in the process of assessing their child and in making decisions about the child based on that assessment data. These interactions also provide a strong indication of the need for strong relationships with families.

No doubt, the strongest support from NAEYC's position paper for family partnerships is in Guideline 5, Establishing Reciprocal Relationships With Families. The position paper clearly states that the complex relationship between teachers and parents is essentially a learning community. While using the term "reciprocal relationships," NAEYC defines a partnership in the supporting text. This guideline includes such expectations as working together toward shared goals, working collaboratively with families using two-way communication, providing multiple opportunities for families to participate in decision making for their own child and for engagement with the program, respecting family choices and goals for their children within the program's context, and engaging together in planning for the child.

Early Care and Education Programs With a Family Partnership Focus

Family partnerships are a type of family involvement closely related to early childhood education.

Head Start/Early Head Start, early intervention services provided under the Individuals with Disabilities Education Act (IDEA) Part C, and home visiting programs are three programs in which family partnership is central to the programs' implementation. In each of these cases, there is a strong emphasis on a member of the program staff creating a close working relationship with the child's family. Family partnerships, by definition, apply a systems approach within these programs, with one focus on working with the family to identify goals not only for the child, but also for the family or parent. Staff members and family members meet, define areas of concern, create goals for the child and family, and work toward meeting those goals.

IDEA Part C family services include writing an individual family service plan (IFSP) for the family. IDEA law clearly indicates that early intervention professionals and families should partner in the development of the IFSP. Much as described earlier, the IFSP should reflect the family's goals for the child and the family; it should be written in partnership with the family and not completed by program staff, for the family.

Since 2010, home visiting programs have surged in number due to funding through the Maternal, Infant, and Early Childhood Home Visiting (MIECHV) Program of the Affordable Care Act. The parent is the primary recipient of services in home visiting programs. The Nurse-Family Partnership model is an example of a home visiting program with a strong research evidence of its effectiveness on children and families. Other home visiting models that embrace a partnership approach include Parents as Teachers (PAT) and Home Instruction for Parents and Preschool Youngsters (HIPPI).

Developing Effective Family Partnerships

Building effective family partnerships requires knowledge, skills, dispositions, and resources, especially the resource of time. A key component of a working partnership is communication. The teacher is required to communicate with the family

and must provide avenues for the family to communicate with the teacher. Communication works best when it is positive, consistent, purposeful, and timely. Partnerships take time to develop, so teachers should begin communication early in the relationship and continue the two-way communication. Multiple modes of communication will generally be more effective and allow contact by telephone, e-mail, written communication, and of course face-to-face dialogue. Some families may be more comfortable with one format while other families may rely on a different medium.

Flexibility is necessary in more than communication modes. Partnerships are flexible, building on the strengths, interests, and needs of the partners. Work schedules, transportation issues, and parents' discomfort with school due to their own unhappy experiences are some considerations for providing flexibility when developing partnerships with families. Meeting families in their own home during home visits, or at neutral sites such as community centers rather than the school, may be a good option to offer families.

The teacher's disposition will play a role in creating strong partnerships. If both parties do not believe there is value in the partnership, it is likely to fail. That may mean staff must both exhibit confidence in the importance of the partnership and provide families with clear gains for their own participation. Cultural competence is also necessary for strong partnerships to develop. Cultural competence can be considered as attitudes, knowledge, and skills to work effectively with persons from cultures or belief systems other than one's own. As stated earlier, the social and cultural context of a child and family has a strong influence on the child's development. Teachers need cultural competence in order to be most effective at navigating the impact of culture on the child's development and to facilitate the partnership with family members.

Ultimately, family partnerships are dependent on the individuals involved. Best practices in early childhood education, as defined by NAEYC's developmentally appropriate practice, reinforce the importance of developing partnerships with families in order to provide the best environments for young

children. Creating relationships with families means having the skills to operate in cross-cultural situations, being able to communicate in multiple media, and taking the time to put these into effect with the families of each child served. It is a fundamental part of several early childhood programs.

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See also Bioecological Theory; Developmentally Appropriate Practice; Family Systems Theories; Home Visitation With Mothers and Infants and Children; Parents as Teachers

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FAMILY STRENGTHS

Children's development and character are primarily due to the influence of the family in which they belong. The family in turn impacts and affects the ways in which a community and society function. Families are the foundation for all cultures around the world. Although families are very diverse, as a unit, they accomplish similar tasks including bearing and rearing children, providing the basic needs of the members in the family, establishing family traditions, and teaching responsibility. Families play a major role in how well children do in school and perform as adults and how they will contribute to society.

Early childhood education (ECE) professionals are challenged to continue the foundational work begun within the family unit in developing a child's whole being: physical, cognitive, social, emotional, aesthetic, and language. ECE professionals also need to acknowledge the strengths of the parent and work with the parent to enable them, as the professionals, to better understand the child. This relationship is a two-way endeavor that aims to help children move in a positive direction, in all aspects of their being, to be successful in school and in the outside environment. Crucial to this endeavor is mindfulness that all families have strengths and a commitment to look for the strengths within each family. Families can be two-parent families with no children; two-parent families with children; single-parent families, male or female headed; families headed by grandparents; a couple with no children; gay or lesbian families; and families headed by a relative of the parents, who have died or are incarcerated. Family types do not take away from the family strengths in each unit.

This entry reviews best practices for early childhood professionals to identify and build on the characteristics of families through the lens of a strength-based model. This model has been around for over 40 years. Included in this discussion will be a definition of strength-based perspective, qualities of strong families, and ways to build and maintain these qualities in children as they enter yet another community—the early childhood classroom.

Family Strength Perspective

When working with children, it is easy to find “the good, the bad, and the ugly.” Opportunities to meet the parents of the children certainly enhance our understanding of the makeup of the child. However, caution must be taken to avoid the human tendency to identify and focus on deficits and instead to center attention on strengths. Most often, when we look for problems we can only see problems; however, it is a fact that if we look for the strengths in children and families, we will clearly see the strengths. Furthermore, focusing on negative characteristics overshadows our vision to see the positive characteristics found within children and families. Early childhood professionals need to consider this paradigm shift from a deficit-based model to a more strength-based model as the most effective way to support children and families. The focus will be on the internal family functions that should be the same, no matter the family “type.”

Defining a Strength-Based Perspective

A strength-based perspective is simply an optimistic and positive view toward life. This perspective can be applied to many facets of life and is gaining momentum in the areas of behavioral health, human development, counseling, and psychology, and in the area of early childhood education. For those who educate young children, the strength-based perspective addresses the methods, strategies, and policies that draw upon the strengths of children, families, and communities.

Several principles of a strength-based perspective have been identified and deserve serious consideration from early childhood professionals, whose goal is to support the development of families. Some of these key principles include the following beliefs:

- All families have strengths, but families also encounter challenges and have areas of growth.
- Looking for strengths will uncover the strengths of a family, but focusing on families’ weaknesses will identify the weaknesses of the family unit.
- There are various types of family structures, but the strength of a family does not lie in the structure of a family but in the *function* of the family.
- Strengths develop over time, and a professional provides resources that will assist families in becoming strong units.

Professionals who view children and families from the lens of a strength-based perspective recognize that each individual member within the family has traits that contribute to the strong family unit. A trait can be explained as a distinguishing quality or characteristic, and the challenge to the early childhood professional is to identify and foster the development of these qualities within each child in their classroom.

Qualities of Strong Families

Researchers have studied and identified common traits found in strong, healthy families. These traits have been found in families of different types, social backgrounds, nationalities, and race. Below is a list of the traits and brief descriptions.

Appreciation. Appreciation means caring for each other and respecting each individual within the family unit. The appreciation also results in valuing the time spent with one another. The more time family members spend together or separately with parents, the more positive it is for that child in the future. It is about both the quantity of time and the quality of time spent together. Families notice the skills, qualities, and achievements of each individual that contributes to the well-being of the family. When families appreciate each member, a deep sense of caring for each family member occurs. Some researchers would include the word *love* as part of the appreciation trait.

Positive Communication. Effective communication patterns are essential. Communication is frequent, open, and honest. Members are willing to listen and openly share their feelings without fear of ridicule or rejection. Family members give compliments to one another and learn to provide

constructive feedback. Parents and other family members must also be aware of the nonverbal communications that are taking place in a family. Parents need to listen to their child and their preferences rather than planning around what the parent wants to do or thinks the child wants to do. The focus needs to be on the child's expectation first. Children often want to just be heard and enjoy the company of a parent or grandparent and may not be really interested in suggestions or solving a problem.

Adaptability. Adaptability is defined as the ability to cope with change and stress. Although all families develop rules and routines, these habits are constantly reshaped by births, divorce, marriage, sickness, and death within the family. Families that are adaptable recognize the changes that occur and strive to maintain a degree of flexibility and openness to the changes. Serving as one strong foundational unit, members draw upon the unique talents of one another to survive and develop strength through these experiences.

Commitment. Strong families show a commitment to one another due to the recognition and acceptance of the worth of each individual. Families learn to value the things that make them unique such as the traditions they hold onto. A tradition can be defined as an activity or an event that holds special meaning, such as how to celebrate birthdays and holidays, church attendance, or family vacations. Through these commitments, a family strengthens the bond of togetherness.

Clear Roles. When families clearly define the roles of each member the family realizes how easy it becomes to work together to accomplish goals. The roles must be realistic and developmentally appropriate for each person. The roles will change over time as children mature. Individuals in any organization and especially in families are more apt to carry out their individual roles and responsibilities if given the opportunity for input. Although parents serve as leaders, when they invite and encourage the thoughts and ideas of their children when making decisions the responsibilities

are more apt to be carried through. Young children often model the practices set forth by parents and siblings when making decisions, a skill that develops over time and is needed to become successful adults.

Spirituality. A spiritual family is one that believes in something or someone greater. In some families, their shared spiritual beliefs are often recognized in both the challenging times and rewarding times, such as the loss of loved ones or job promotions. The spiritual belief usually connects families to other people or groups that share in their beliefs and philosophies within the community.

Community and Family Ties. At some point, families recognize that they do not live in a vacuum and come to rely on additional love and support freely given by extended family members such as aunts, grandparents, uncles, and cousins. Strong families naturally find rich resources of support within their communities when they become involved with their child's schools, church, and other organizations that support their beliefs and ideals of family. As parents become involved citizens by serving the community as members of city councils or school boards, or volunteer in community projects, they demonstrate to children the strong connection family has to a greater entity.

Encouragement of Individuals. Individuals all have experiences that call for encouragement to continue. The level and type of encouragement come from the family unit as well as the community. Members tend to seek out the support from those who have experienced a similar situation and rely on their advice to move forward. Families celebrate each other's successes.

Commitment to Family. Each member of a strong family unit is committed to one another. A loyalty to each other develops over time and through every experience families' share. Individuals recognize the strengths and worth of one another and call upon the strength and bond they share as a family unit.

Although these nine common traits are found within strong family units, these traits can

continually be developed and strengthened outside the home. Early childhood teachers can provide experiences through strategies implemented within their classroom that work to foster and strengthen the development of each child. As children broaden their world and grow from the family unit to a classroom community, these traits must continually be fostered as skills that in turn will positively affect the communities to which they belong.

Building and Maintaining Qualities in an Early Childhood Classroom

As a child moves from the family unit into a classroom community, it is crucial for the early childhood teacher to identify these qualities within each child. As noted before, not all children may have come from a strong family. Educators must observe children through the lens of the strength-based perspective rather than the deficit perspective. When looking for the strengths, teachers will discover that each child has developed some strengths to a certain degree. The challenge as a teacher is to foster these qualities found with strong families, within their own classroom where children are transitioning from the family unit to a classroom community.

Early childhood teachers must provide experiences within their classroom community that will continue to foster those qualities that are noted to build healthy and strong communities. Below are a few suggested strategies that can be used to strengthen family systems and be transferred to the classroom community as well.

- Spend quality time connecting with each child at least once a week. Quality time could be referred to as one-on-one time spent in exploring the wants, needs, and interests of the child.
- Respond to the children with patience and respect in regard to their feelings and their abilities.
- Provide time within the week where children are asked to share their accomplishments. In the home this can be done around mealtime; at school it can be done during morning meetings.
- Hold classroom meetings where all community members (children) have an opportunity to talk openly without fear of ridicule or rejection.
- Encourage open communication, accomplished not only through words but also through actions and drawings. Listen with an open heart and compassion.

Conclusion

Aristotle believed that “the whole is greater than the sum of its parts.” As early childhood educators, we acknowledge that a family is only as strong as the individuals within the unit. We begin to identify the characteristics of strong families when we examine the qualities of those individuals within the unit. Most important, our view of families and individuals must be examined through the lens of a strength-based perspective whereby we focus on the optimistic and positive occurrences within each family structure. Educators come to realize that the best way to serve families is to collaborate with them, acknowledging the knowledge and experiences they have encountered, while respecting the wisdom and resources they have developed as a family unit.

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See also Family Health; Family Life Education; Resilience in Adversity; Stress and Resilience in Families

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FAMILY STRUCTURE

Family structure refers to the configuration of family members in a household. In light of demographic changes in the United States over the past 50 years, the term family structure is typically used by social scientists to refer to one of the following arrangements: married-parent households, single-parent households, and cohabiting-parent households. Family structure is linked to child well-being and has implications for parents' use of early care and education settings. This entry examines recent demographic changes in family structure in the United States, how family structure affects children, and implications for the use of early care and education.

Demographic Changes

Over the past 50 years, the marriage rate in the United States has seen a dramatic decline. In 1960, 72% of adults were married. By 2008, this percentage had dropped to 52%. As the marriage rate declined, the rate of unmarried births increased sharply. The share of births to unmarried women rose from 5% in 1960 to 41% in 2008. These changes are closely tied to both socioeconomic status and race/ethnicity. For instance, college

graduates are now much more likely to be married than those with a high school diploma or less. In terms of race/ethnicity, although marriage rates have fallen among Whites, Hispanics, and Blacks, the drop has been most pronounced among Blacks. In 2008, 56% of Whites, 50% of Hispanics, and 32% of Blacks were married. Consistent with this trend, Black women have the highest unmarried birth rate. As of 2012, 72% of births to Black mothers were to unmarried women. Rates were 54% and 29% for Hispanic and White mothers, respectively.

As a result of these demographic changes, American children are growing up in households with a more varied array of family structure configurations than ever before. In 2008, approximately 70% of children under age 18 who lived with a parent lived with married parents, 15% had parents who were separated or divorced, and 14% had parents who were never married. This percentage of children in never-married-parent households, however, masks substantial variation. Specifically, it fails to capture the distinction between single parents and cohabiting parents, who are unmarried parents who live together. Cohabitation has been on the rise since the 1970s. In 2010, 23% of recent births were to cohabiting parents, a noteworthy increase from 14% in 2002. Furthermore, approximately 40% of children are estimated to live in a cohabiting household at some point in their childhood. Cohabitation can take many forms. It can consist of two biological parents living together or a biological parent and the parent's partner. It can be a precursor to marriage, a temporary alternative to marriage, or an alternative to single parenthood. Regardless of the form they take, cohabiting relationships tend to be short-lived.

Family Structure and Child Development

There is substantial evidence that children born to both single and cohabiting parents are at greater risk for poor developmental outcomes, including lower scores on standardized tests of cognitive ability and higher levels of behavior problems, than children born to married parents. This pattern

is partly due to the fact that single and cohabiting parents are more likely to be socioeconomically disadvantaged than married parents. They typically have lower incomes, fewer years of education, and higher rates of maternal depression, all of which are associated with poorer developmental outcomes for children. There is some evidence to suggest that children of single mothers may fare better than those who live with cohabiting partners (one parent and the parent's romantic partner), but other studies have found no differences in the well-being of children of single and cohabiting parents. A separate strand of research suggests that marital quality may moderate these associations. For instance, children may actually benefit from marital disruption (separation or divorce) if their parents have a high-conflict relationship.

Implications for Early Care and Education

The growth in the number of children born to unmarried parents has implications for patterns of use of nonparental early care and education (ECE) arrangements. ECE arrangements are particularly crucial for unmarried working mothers, who are more likely to have to balance work and family on their own. Approximately half of all unmarried mothers rely on ECE of some kind. Most of these mothers use relative care, which is care provided by the child's relative in either the child's home or the relative's home. Additionally, a substantial share use formal center-based care, which includes Early Head Start, Head Start, and publicly funded preschool programs. Not surprisingly, single mothers are more likely to rely on ECE than cohabiting mothers. This is likely because cohabiting mothers can more easily rely on their child's father to provide child care or support, allowing them to balance work and family without the use of ECE arrangements. Relative care is typically less expensive than other ECE arrangements and may be more convenient for mothers who work unusual hours. However, relative care is unregulated (as opposed to center-based care arrangements, which have to meet public health and

safety regulations). Therefore, a large share of children in unmarried-parent households, most of whom are socioeconomically disadvantaged, spend their days in unregulated ECE settings. This raises concerns about the health and well-being of this group of children and suggests that policy makers should focus on making low-cost, *regulated* ECE arrangements available to this particularly vulnerable group of parents and children.

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See also At-Risk Families; Cohabitation; Home-Based Early Childhood Education

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FAMILY STRUCTURE DIVERSITY IN THE EARLY CHILDHOOD PROGRAM

All family structures serve similar purposes, paramount among which is to take care of, socialize, educate, and protect children until they reach young adulthood. Inherent in the professional ethics of early childhood education is the expectation that each child's family will be treated with respect and that children will be helped to feel proud and strong about their specific family. Although some

still define the term *family* to mean a husband and wife and their biological children living together under one roof, the reality is that many types of family structures exist.

All young children think the family in which they live is simply how families are. It is when children enter group programs outside of their homes that they often discover that there are many kinds of families and that the important adults in those programs may or may not think of their family as normal or acceptable. The degree to which the early childhood education (ECE) program makes a family visible and warmly included makes a huge difference in the ease or difficulty of a child developing a positive sense of self and of belonging.

Terms for family structures vary from region to region and from family to family. It is important to find out which term(s) each family uses to name itself, and for teachers to use those terms with children. It is essential to recognize that the structure of a family does not indicate the degree to which the family does or does not work effectively, is or is not loving and kind, and does or does not have problems with addictions, anger, money, and so on. At the same time, staff need to be aware that different family structures may have quite different issues, needs, strengths, and values that require different approaches and supports from ECE staff. The following descriptions of family structures are not exclusive; several of the terms may describe a family at a given time.

Adoptive Family. A family where one or more of the children has been adopted. Any structure of family may also be an adoptive family. A *transracial adoptive family* is one where the adopted child is of a different racial identity group than the parents. Sometimes children (as well as adults) use the term “real parents” to mean “birth parents.” ECE staff should be clear that the adoptive parents are the actual parents because they are the ones raising the child. It is essential for staff not to automatically assume that any problems a child may be having are due to adoption.

Biracial or Multiracial Family. A family where the parents are members of different racial identity

groups. Children in these families are not half-and-half, nor do they have to choose one identity over another. Each child is fully who they are. As racial identity remains one of the most contentious and difficult issues in the United States, ECE staff must be prepared to listen carefully and respectfully to what each family wants their child to value about her or his identities. This also applies to transracial adoptive families.

Blended Family. A family in which one or both of the members has a child or children from a prior relationship. Families may use a variety of terms for the various family members or simply call them by name. Relatives from the original family, or half-siblings, step-grandparents, and so on may or may not play a major role in the children’s lives. ECE staff should follow the family’s lead in identifying who the people are that the child thinks of as family and include those people in any family curriculum or activities.

“Broken Home.” A highly derogatory term inappropriately and inaccurately used to describe the homes of children from divorced families.

Co-Custody Family (Joint Custody Family). A family in which parents who do not live together share legal responsibility for their children. Children may alternate living with each parent or live with one and have visitation with the other. ECE staff should find out which parent is responsible for the child on which days and who will be picking up the child. Children should be supported to acknowledge both families and never be put into the position of having to choose which is most important.

Conditionally Separated Families. A family in which a member is separated from the rest of the family. This may be due to circumstances such as employment far away, military service, incarceration, or hospitalization. They remain significant members of the family. ECE staff can help children in these families to deal with what is often a stressful time. Children can stay connected by making drawings, dictating letters or stories about favorite activities at school, and having a special calendar

that marks off the days until the family will be reunited. ECE staff should avoid assurances about the unknown such as telling children that a member of the military will be fine or that someone who is incarcerated will be home soon.

Extended Family. A family where grandparents, aunts, uncles, and cousins play significant roles in the children's upbringing. This can include relatives living with the children or those who don't. Extended family may be in *addition* to the child's parents or *instead* of the child's parents. In school invitations, conferences, and letters, ECE staff should include all the people in an extended family who are important in the day-to-day life of the child. Staff need to be aware that grandparents may have as much or more voice in decisions as parents, and cousins may be as close as siblings.

Foster Family. A family where one or more of the children is legally a temporary member of the household. This "temporary period" can be as short as a few days or as long as the child's entire childhood. *Kinship care families* are foster families where there is a legal arrangement for the child to be cared for by relatives of one of the parents. ECE staff should use the terms used by foster children to refer to their foster parents and ask the foster parents what they have told the child about the likelihood of reuniting with the absent family. If it is permissible for the original parents to visit, staff should make them welcome. A foster child should never be asked to choose who is most important to him or her.

Immigrant Family. A family where the parents have immigrated to the United States as adults. Their children may or may not be immigrants. They and their children may or may not be U.S. citizens. Some family members may continue to live in the country of origin, but still be significant figures in the life of the child. (See section on *transnational families*.) All immigrant families bring with them a set of culturally based behaviors for raising their children, and each of these families is

continually navigating between what made sense in their country of origin and what is needed in their new country. ECE programs must take special care to strengthen the bonds between the child and the family. It is the staff's responsibility to find ways of incorporating home cultures in respectful and welcoming ways and to reconcile cultural beliefs that may be in conflict with specific traditional ECE. Supporting the child's home language (the child's mother tongue) is as essential for the child's thriving as is supporting the child as an English language learner.

Lesbian, Gay, Bisexual, or Transgender Family. A family where one or both of the parents is bisexual, gay, lesbian, or transgender. This may be a two-parent family, an adoptive family, a single-parent family, or an extended family. Some families are beginning to use the term *queer families*; however, this term is still pejorative in parts of the country and to some families. LGBT families often face significant social prejudice, and in parts of the United States family members may not have full legal rights to their children. It is up to the early childhood professionals to demonstrate that the children's program is a safe place for families to be open about who they are and no one but the members of the family has the right to "out" a family (reveal their sexual orientation) to anyone else. Staff should find out what terms the child uses to describe her or his parents and be sure that all letters, forms, invitations, and so on use language that makes clear that these families are welcome.

Migrant Family. A family that moves regularly to places where they have employment. Farmworker families who move with the crop seasons are the most common example. Military families may also lead a migrant life, with frequent relocation, often on short notice. Children may have a relatively stable community of people who move together—or the family may know no one in each new setting. It will often take longer for the migrant child to settle into a new program and make important ties to teachers and other children. ECE staff can support these children by helping them recall and

talk about places they have been. When families leave for a new location, they should be given documentation of their child's experiences, and the children given pictures to remember friends, teachers, and activities.

Nuclear Family. A family consisting of a married man and woman with their biological children. This family form is the one most reinforced in dominant society. ECE staff can help children understand that the two-parent, heterosexual family is one kind of family among many others. It is essential that early childhood teachers not assume that just because a family has a nuclear structure, they do not need thoughtful support and community connection.

Single-Parent Family. A family with a father or mother who is solely responsible for raising a child who either was born to the parent or was adopted. The parent may have chosen to be a single parent or may have become one by life circumstances. The other parent may have been part of the family at one time or not at all. ECE staff should find out what other supports the single parent has and which other people play a significant role in the child's life. It may be particularly significant for this type of family that the early childhood program builds a caring community of parents.

Transnational Family. A family that lives in more than one country. They may spend part of each year in their country of origin, returning to the United States on a regular basis. The child may spend time being cared for by different family members in each country. Culture clash may be a primary issue for these families as they work to have their children be at home in both countries. ECE staff should pay particular attention to the areas where parents are uncomfortable with ECE approaches and problem solve with the families to lessen the disequilibrium. Staff should learn about the words the child uses for his or her various family members in both countries and what (if any) kinds of group care the child has experienced.

Working-Class or Poverty-Class Family. For low-income families, economic circumstances impact every decision of their daily lives. Children in these families rarely find their experiences reflected in children's books or media, or if visible at all, only reflected in negative ways. They may wear second-hand clothes, go without new toys or hot-trend products, be cared for in crowded clinics, and experience homelessness. ECE staff must be very careful not to equate the economic-based struggles these families face with "bad" parenting. Coming late to school is often the result of having to use unreliable public transportation or unrepaired cars. Concern over keeping clothes clean at school may be connected to the difficulties and costs of using laundromats. Getting child care to attend meetings, or getting permission to miss work, may make it difficult for parents to participate. The use of food for art projects is a painful and insulting experience for families where access to food is a source of worry. Staff should avoid the insulting phrase "lower class" and use books that celebrate the important contributions of all types of work that family members do.

Families Coping With Disabilities. Family members with disabilities may be present in families with any of the structures just described. These disabilities may or may not be visible. Whatever other issues they may have, there is always the addition of having to continually adjust and shift to meet the needs of the person with the disability. For most of these families, the search for resources is a major and ongoing struggle. ECE programs are required by federal law to adapt classrooms and instruction for the inclusion of children with disabilities. It is also important for programs to adapt so that family members can be involved. ECE staff should openly discuss the disability with the family, find out what words the child has for describing the specifics, and use the family's terminology in the classroom. While these families often have special needs, they are not helped by pity or by pretending they do not need accommodation. The family itself is the expert on what will be most helpful.

Effective early childhood practice requires that teachers and administrators understand the fundamental, long-term, powerful relationship between children and their families. As children develop their deepest social identities, they are paying attention to adult attitudes and societal cues even before they have any language to describe these experiences. Attitudes about their families are translated by children as attitudes toward themselves. Early childhood staff must pay close attention to both the overt and covert messages they send to children about the value and acceptability of all types of families. Ongoing discussion and activities that help children understand the ways in which all families are the same and all families are different serve as a major support to children's construction of their social identities and sense of value and worth.

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Author's note: Portions of this entry were distributed to early childhood professionals prior to this publication and have been shared online with permission of the author as the article "The Many Kinds of Family Structures in Our Communities."

See also Adoption; Family Structure; Immigrant Children; Multiracial Families; Refugee Children

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FAMILY SYSTEMS THEORIES

Family systems theories refers to multiple perspectives on family interactions through the lens of the entire family. These approaches take into account the complexity of relationships within families. National standards for early childhood teacher preparation indicate that candidates for licensure should be well versed in many theories of child development and family studies, including family systems theories. However, Linda Garriss Christian noted a decade ago that family systems viewpoints are too rarely included as key factors in early childhood education. Still, little has changed in the United States in relation to the inclusion of systems understanding for partnerships with families. Just as deep knowledge of child development benefits early childhood teachers as they plan and implement developmentally appropriate practices in a classroom, it is believed that depth of understanding of family systems helps early childhood professionals to form reciprocal partnerships with diverse families. This entry describes three respected systems viewpoints: family life cycle, Bowen family systems theory, and Olson's circumplex model.

Family Life Cycle

Betty Carter and Monica McGoldrick describe a family life cycle perspective with a model that includes concentric circles representing the individual at the innermost circle. As a reader moves to the outermost circle, immediate family, extended family, local community, and larger society are represented. Arrows appear within the circles to indicate that each system impacts the others. One premise of this theory is that everything that affects one family member also affects other members, albeit not to the same degree. For example, when a couple has their first child, not only do they become parents, but their parents may become first-time grandparents or add a new grandchild, siblings may become aunts or uncles, and with these new titles, relationships are bound to be in flux.

In addition, this cyclic approach delineates two types of stressors that occur over time within families: horizontal and vertical. Horizontal stressors impact families over time and include both expected and unexpected events. Expected events include typical life cycle transitions such as marriage, birth of children, empty nest, and retirement. Examples of unpredictable events include effects of chronic illness or disability, climate disasters, and war. Vertical stressors are those that are passed down through the family, such as genetic outcomes, family values, rituals and practices, political views, addictions, oppression, and economic status.

Family life cycle approaches examine how families change over time. Relationships among family members, rather than family functions, are given priority. Intergenerational relationships have been shown to influence how families move from one stage of the life cycle, such as transitioning from a married couple to a family with a young child or children. In this example, grandparents' values and practices would be expected to influence new parents as they shift into parenting mode. It is not uncommon for new parents to view their role of mother or father along with their partner's role of mother or father differently from one another and based on experiences from their families of origin.

Although family life cycle perspectives indicate what may be viewed as a once-typical sequence of family change for middle-class families, proponents acknowledge that variations in a chain of events may change for culturally or economically diverse families. Carter and McGoldrick refer to the stage of family life with young children as the pressure-cooker phase of family due to increased demands on adults and constant nurturing needs of children. Early childhood teachers who are aware of this connotation may be able to empathize when young children come to school without lunch money or parents forget to bring diapers to child care.

Being successful at parenting requires many resources. It is easier to find a balance with young children when they are well, child care is reliable, and parents have job security and reliable transportation. Social resources such as supportive extended family and friendship networks also help

new parents to provide necessary nurturance and care for their children. When even one of these resources becomes problematic, such as a car needing repairs, it can lead to multiple stressors such as being late for work and a child missing a school field trip. When many or most of these resources are not available to new parents, their stress may skyrocket and affect responsibilities to their children. Teachers who have an understanding of a life cycle approach are likely to be less judgmental of families and to be willing to offer information about local resources.

Bowen Family Systems Theory

Psychiatrist Murray Bowen created the Bowen family systems theory, which includes eight interconnected concepts by applying a systems approach that integrates knowledge of human evolution and research on families. Bowen's theory views families as units with deep emotional ties and complex interactions so that one family member's functioning affects other members due to the emotional interdependence necessary to support cohesiveness of the unit.

Bowen has constructed eight concepts that are essential to understanding this theory of family systems.

Triangles. Three-person relationships are viewed as the smallest stable unit in that they can tolerate more tension than two-person relationships. However, as social science has shown, one person is always uncomfortable and working for change in the relationship. Shifts among the three people in the triangle are inevitable and create a dynamic that causes stress. Typically, one person is always making efforts to be either an insider or an outsider. Emotions are affected and when one is pushed to an outside position, depression may occur.

Differentiation of Self. Having a strong sense of self typically develops throughout childhood and adolescence within the family of origin. Differentiation of self can be viewed on a continuum with some weak, some strong, and many at points in

between. Individuals with less differentiation of self have more difficulty in stressful situations and are likely to have heightened anxiety leading to greater need for intensive dependence on other family members. When multiple family members have less differentiation of self, they are likely to have serious emotional difficulties.

Nuclear Family Emotional Process. When families experience extended periods of stress, at least one of four emotional processes will be set into motion. The four processes are (1) marital conflict, (2) dysfunction in one spouse, (3) impairment of a child, and (4) emotional distance. Family tension leads to marital conflict when spouses become anxious and focus on what is wrong with one another. Dysfunction in one spouse occurs when he or she is pressured by the other to behave and think in particular ways. To maintain harmony, the pressured spouse goes along to get along, which may lead to high anxiety that triggers a medical need. When a child is viewed by parents as impaired, their focus on this child leads to the child focusing on them and inhibits his or her process of differentiation. Children in such a circumstance are likely to act out or internalize tensions of the family and have difficulties in school and with friendships.

Family Projection Process. This process explains how parents project or transmit their emotional difficulties onto a child, causing a child to develop intense relationship sensitivities and become vulnerable to chronic anxiety. Three steps in this process are parent focuses on a child that is believed to be at risk, parent interprets the child's behavior as supporting the belief, and parent treats the child as if he or she has some form of disability. As a parent goes through these steps, the intensity of the parent's relationship with the child increases as he or she tries to remedy the child through extreme affirmation.

Multigenerational Transmission Process. This process is related to individual differentiation and relationships through generations of a family. Some of what is transmitted from one generation

to another is intentional, and some transmission such as emotional reactions and behavior is not conscious. Relationship patterns in nuclear families typically have at least one sibling with higher differentiation than the parents and one with lower differentiation. As these offspring select significant others, higher differentiation individuals are more likely to establish marriages that differ from parents and lower differentiation individuals are less likely to establish different relationships than their parents. And so it goes through many generations. While highly differentiated persons have strong nuclear families and contribute to society, those who are poorly differentiated often have chaos in family and other relationships.

Emotional Cutoff. All individuals have unresolved issues with their family members that they may attempt to remedy by physical or emotional disconnectedness. The danger of cutting off relationships with parenting figures and siblings is that a person then risks placing too many expectations on spouse, children, or friends to meet emotional needs. As with other family processes, highly differentiated individuals are able to resolve more of their family issues and maintain optimal emotional connections. Less differentiated persons are more likely to continue to have unresolved concerns in their family relationships.

Sibling Position. In this theory, birth order interacts with individual differentiation to create variations in family processes. Bowen believed that sibling positions are equally valued, but those who are firstborn are more likely to be leaders and younger siblings to be followers. Sibling positions of parents are also a consideration in family relationships in that youngest siblings who have parents who were both firstborn may experience expectations that would be different if both parents had been youngest in their nuclear families.

Societal Emotional Process. As with families, societal-level groups, such as workplaces and social networks, experience emotional systems

that influence behavior. Bowen hypothesizes that society experiences periods of progressivism and regressivism and that it is more difficult for parents to raise children in periods of regressivism as those societal factors such as growth in violent crime, increasing litigious attitudes, drug abuse epidemics, and more filings of bankruptcy foster more challenging behaviors in children and adolescents. An interesting argument that is posed within the concept of societal emotional processes is that during periods of regression, it is more constructive for persons to work on themselves and examine their own contributions to regression rather than to focus on the next generation to improve the world since changing the self is more probable than changing others.

Since Bowen's theory emphasizes emotional connectedness and isolation, it is frequently applied in therapeutic settings. Early childhood teachers do not have credentials to apply these concepts in the same way as therapists would, but increasing understanding of family systems in a more generalized way is conducive to creating supportive interactions with families.

Olson's Circumplex Model of Family Systems

David Olson's circumplex model has an extensive body of research in support of the primary concepts: flexibility, cohesion, and communication skills. As with Bowen's theory, the purpose of this model that describes family dynamics is for therapeutic intervention. Families with a balance of flexibility and cohesion within their systems have been shown to be more functional than those with too high or too low flexibility or cohesion.

Flexibility is defined through four dimensions: chaotic, flexible, structured, and rigid. The two mid-range dimensions, flexible and structured, are viewed as having a balance and the two extremes, chaotic and rigid, are seen as unbalanced. Four dimensions of cohesion are disengaged, separated, connected, and enmeshed. As with flexibility, the two mid-range dimensions, separated and connected, are noted as balanced and the two extreme,

disengaged and enmeshed, are rated as unbalanced. In Olson's perspective, communication is seen as a skill that is supportive of families as they make efforts to move toward greater functionality in both flexibility and cohesion. Effective communication efforts, such as respect for communication, an ability to listen, a concern for others, and sharing authentically about their own feelings, appear to be more successful for families who are balanced in their levels of flexibility and cohesion.

Measures of the flexibility and cohesion dimensions have led to classification of family systems in one of three ways: balanced families who have balance on both the flexibility and cohesion arrays; midrange families who have balance on one dimension and are extreme on the other; and extreme families who measure as extreme on both dimensions, flexibility (either too loose/chaotic or too rigid) and cohesion (either too close/enmeshed or too far apart/disengaged). Combinations of each of the three classifications of the two dimensions are as follows:

Balanced: flexibly separated, flexibly connected, structurally separated, structurally connected

Mid-range: Flexibly disengaged, flexibly enmeshed, structurally disengaged, structurally enmeshed, chaotically separated, chaotically connected, rigidly separated, rigidly connected

Extreme: Chaotically disengaged, chaotically enmeshed, rigidly disengaged, rigidly enmeshed

The dynamic nature of any given family system is an inherent part of understanding the circumplex model. As families move through various life cycle experiences, it is expected that behaviors that are identified as balanced will vary somewhat. For example, family cohesion is often higher when young children are in need of consistent nurturance and caregiving than when adolescents are becoming more independent and seeking their own identities. Further, families with young children often have routine schedules that are so tightly packed that there may be little room for flexibility within the system.

Early childhood professionals may be able to increase their understanding of family systems as they become familiar with concepts of the circumplex model. Teachers often find that applying the concepts to their own family experiences helps to elucidate the difference between balanced and unbalanced flexibility and cohesion. As with the other systems approaches in this entry, foundational understanding of these perspectives is believed to help professionals to form authentic, respectful, reciprocal relationships with families of the children that they teach. An increase in the knowledge about family systems can support empathy and decrease judgment in these relationships.

Donna Couchenour

See also At-Risk Families; Family Engagement Models; Family Life Education; Family Partnerships; Family Strengths; Home Visits; Immigrant Families and Early Childhood Education; Parenting Effects on Child Development; Partnership Transitions; Sibling Relationships; Stress and Resilience in Families; Substance Abuse and Addiction; Violence in Families; Work and Families

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The Bowen Center for the Study of the Family: <http://www.thebowncenter.org>

FAMILY-CENTERED PRACTICES

Family-centered practices guide interactions between practitioners and families of young children. The Division for Early Childhood (DEC) of the Council for Exceptional Children defines family-centered practices as those that treat families with dignity and respect; are individualized, flexible, and responsive to the unique circumstances of diverse families; provide families with complete and unbiased information to make informed decisions about the supports and services they want for their child and family; and promote family involvement in acting on their choices. Family-centered practices reflect a philosophy that recognizes family strengths and acknowledges the family as the most important influence on a young child's learning and development.

This entry presents the history and evolution of family-centered practices, describes federal policies that guide the provision of family-centered supports and services for young children with disabilities, identifies recommended family-centered practices in early intervention/early childhood special education, distinguishes family-centered from family engagement practices, and provides two examples to illustrate these distinctions.

History and Policy

The definition of family-centered practices in early intervention and early childhood special education evolved from the principles of family-centered care. Family-centered care practices were developed in the 1980s to guide provision of services and supports to children with special health care needs. In 1987, the Association for the Care of Children's Health (ACCH) published a list of key principles and accompanying descriptions of practices associated with family-centered care. Among the key principles was recognition that the family, not service systems and professionals, is the constant in the child's life. Emphasis was placed on actions taken to facilitate parent and professional collaboration in all aspects of care; to share unbiased and complete information with families; to

implement comprehensive policies and programs that offer families emotional and financial support; to recognize family strengths and respect different methods of coping; to understand and incorporate the developmental needs of children and families into health care services; to encourage and facilitate parent-to-parent support; and to design health care delivery systems to be flexible, accessible, and responsive to family needs.

Education of the Handicapped Act Amendments Part H/IDEA Part C

Publication of family-centered care practices coincided with passage of the Education of the Handicapped Act Amendments in 1986 (Public Law 99-457). This act established the Part H Program for Infants and Toddlers with Disabilities and offered funding to states to design and subsequently implement within 5 years a comprehensive, coordinated, multidisciplinary, interagency program of early intervention for infants and toddlers from birth to age 3 with disabilities and their families. Congress established Part H in part to enhance the capacity of families to meet their child's unique needs and included the requirement that services be guided by an individualized family service plan (IFSP).

The IFSP regulations emphasized the importance of gathering information from families about their concerns, priorities, and resources as these related to enhancing the development of their child. The intent was for practitioners to learn what families wanted for themselves and their children rather than practitioners making these decisions. Requirements associated with the Part H program and IFSP contributed significantly to adoption and adaptation of family-centered care practices in early intervention.

The Education of All Handicapped Children Act was reauthorized and renamed the Individuals with Disabilities Education Act (IDEA) in 1990. Part H was changed to Part C in 1998 following the 1997–1998 IDEA reauthorization. The 2004 reauthorization of IDEA is the current federal policy guiding implementation of family-centered practices in Part C early intervention programs.

Implementation of regulations continues to emphasize collaborations and partnerships between families and practitioners focused on gathering information about family concerns, priorities, and resources as these relate to supporting a child's development as well as the active engagement of families in each step of the early intervention process, from first contacts through transition planning. The IFSP includes both child and family outcomes with recognition that early intervention should be individualized for each child and family.

IDEA Part B Section 619 Preschool Grants Program

The Part B Section 619 Preschool Grants Program is another program provided under IDEA for young children with disabilities. Section 619 authorizes grants to states to deliver special education and related services for children ages 3 through 5 years. Although family-centered practices are not an explicit focus of the Section 619 regulations, family participation is required when developing the individualized education program and making decisions about a child's educational placements and services. States also have the option of extending implementation of the IFSP into preschool for children ages 3 to 5 years. This option acknowledges the importance and appropriateness of family-centered practices from birth through age 5.

Recommended Family-Centered Practices in Early Intervention and Early Childhood Special Education

DEC-recommended practices guide practitioner and family actions and interactions related to supporting the development and learning of young children from birth to age 5 with or at risk for developmental delays or disabilities. In 1993, DEC first developed and published a set of recommended practices for the field of early intervention/early childhood special education that included practices focused on family participation. The preamble to these recommended practices

acknowledged families were equal members in and could take part in all aspects of early intervention/early childhood special education. In the set of recommended practices published in 2014, there are nine family-centered practices. The practices are related to building partnerships with families; providing families with information to inform decision making; responding to family concerns, priorities, and changing circumstances; working together with families to develop and implement IFSPs; recognizing and building on family strengths to enhance family confidence and competence; assisting families to identify and utilize their own network of informal and formal resources and supports; sharing information about their child in the family's preferred language; helping families know and understand their rights; and encouraging interested families to engage in leadership and advocacy opportunities. These practices characterize a family-centered approach, which aims to enhance the capacity of families to support their child's learning and development and address their identified concerns, resources, and priorities.

Family Engagement

The National Association for the Education of Young Children (NAEYC) helps guide policy and practice in early childhood education for all children from birth through age 8. NAEYC uses the term *family engagement* to describe the role of families in early care and education. NAEYC defines family engagement as a partnership between families and early childhood education programs. Family engagement practices include family participation in decisions about their child's education, two-way communication between the school and family about both the individual child and the program, collaboration and exchange of knowledge through active family participation in school activities and teacher integration of information about children's families and communities into instruction, extension of learning activities from school to the home environment, family creation of a home learning environment that links

goals between school and home, and professional development for teachers related to implementation of family engagement practices.

Distinguishing Family-Centered and Family Engagement Practices

Family-centered practices include family engagement practices and there is overlap in some key practices, such as ongoing communication with families, collaboration and exchange of information and knowledge, and family participation in program activities. Family-centered practices extend beyond family engagement. They are distinguished by their explicit focus on both family and child outcomes that are prioritized by the family in partnership with practitioners. An important and explicit principle of family-centered practices is that the well-being of the family is linked to the well-being of the child. Supports and services for both are likely to have a greater impact on child development and learning than programs that focus exclusively on the child. Research has demonstrated positive outcomes for both families and children when practitioners use family-centered practices as intended.

Examples of Family-Centered and Family Engagement Practices in Action

The examples that follow are hypothetical but are based on the collective experiences of the authors as they have interacted with families. Jessica is an 18-month-old girl with developmental delays in speech, language, and feeding. She and her family receive home visits from a Part C early intervention provider two times per week. To inform the development and implementation of the IFSP for Jessica and her family, the early intervention provider and speech therapist talked with Jessica's parents to gather information about the family's routines and activities, specific concerns they had related to Jessica's development and her participation in routines and activities, and supports her parents felt they needed for Jessica or the family. Her mother shared that mealtimes were the most

difficult routine for them because Jessica often screamed and threw her food and because she had difficulty eating independently. Both parents expressed that helping Jessica communicate her wants and needs during mealtime was a more immediate priority for them than teaching her to eat independently because they wanted to increase enjoyment of mealtimes at home and eat out at restaurants without Jessica throwing her food. The providers worked with Jessica's parents to develop IFSP outcomes, goals, and strategies they could use to facilitate Jessica's communication during meals. This example reflects family-centered practices related to responding to families' concerns and priorities, working together with families to develop and implement IFSPs, and recognizing and building on family strengths to enhance their competence and confidence.

Devon is a 2-year-old boy who attends a full-day community-based child care center Monday through Friday. At the center, he often cries and falls to the floor when asked to transition from one activity to another, such as from playtime to snack or from snack to outdoor play. His teacher has discussed this behavior with Devon's parents, who report similar behavior at home, such as when they need Devon to transition from the house to his car seat or from the backyard to bath time. Both his teachers and Devon's parents agreed to gather information about Devon's behavior at school and at home to understand when, with whom, and why his challenging behavior might be occurring. His parents and teacher then met to share ideas about strategies they could use at home and school to address or prevent Devon's challenging behavior during transitions. They worked together to develop an individualized behavior support plan for Devon. His teacher has been sending home reports about Devon's progress in a daily home-school notebook that allows his parents to respond each day to the teacher's notes and share updates about progress at home. This example is consistent with family engagement practices related to two-way communication between school and home, extension of learning activities from school to home, and linking goals between school and home.

These practices are distinguished from family-centered practices because they are primarily focused on a child outcome, although some of the practices used in this example reflect family-centered practices.

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See also Family Partnerships; Family Strengths;
Recommended Early Intervention Practice Guidelines

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FATHERS

Traditionally, in most cultures women have been charged with caring for young children, first in their own families and extended families, and later in organized, collective groups. Early childhood development theorists such as Johann Heinrich Pestalozzi and Friedrich Froebel recognized the important role of mothers in helping nurture and educate young children. In much of the 20th and 21st centuries, theories and research on the adult influence on young children has focused on mothers, such as Mary Ainsworth's strange situation experiment, and on the assumed natural role of women in caring for young children. Thus, anything to do with young children has focused on mothers and women caregivers.

As early childhood programs became popular in the 1960s, both to provide child care while women worked (partly as a result of an increase in single, female-headed households) and to provide compensatory education in programs such as Head Start, women were still viewed as the people to provide these programs. Beyond scholarship and practice, many people still view caring for young children as a natural role for women, and still view early childhood programs as the exclusive domain of women. This also includes father involvement in early childhood programs, which is much less than mother involvement. Even fathers who are active parents at home tend to be less involved in their child's early childhood programs.

Barriers

While most people in the early childhood field intellectually support father involvement in the lives of young children, both at home and in the early childhood program, many barriers prevent this from occurring. These barriers include

- the predominantly female nature of the early childhood field;
- the fact that, as a culture, we do not expect or support men to be actively involved in the lives

of their young children, at home and in the community; and

- more and more young children do not live with their biological fathers.

Female Nature of the Early Childhood Field

The female nature of the contemporary early childhood field is unquestionable. By itself, there is nothing wrong with this. However, it does pose issues for any efforts to actively include fathers and other men in early childhood programs. First, female teachers and providers are comfortable working with and communicating with mothers, partly because many are mothers themselves, and also because they are all women. While some women are comfortable working closely with men, many are more comfortable working with children and other women (which is one reason some people enter the field). Further, due to a long history of working closely with mothers, early childhood programs have developed effective methods, procedures, and techniques that support and enhance female-female communication and mutual support.

Men Often Not Expected to Be Involved With Their Young Children

In American culture, men's first priority has always been to provide for the family. While this is changing, men who do care for their young children cannot look to their own fathers as role models, and often do not receive support from people at work and close male friends. Thus they are often charting new territory, which can be psychologically and emotionally exhausting. Further, male colleagues and male social activities used in male bonding and brotherhood in the American culture—drinking, sports, home repair, and so on—do not naturally lend themselves to including young children. In some cases, male colleagues may even belittle a colleague's maleness who is involved with his children, and who may have to "take care of my daughter" instead of playing on the company baseball team.

Often the father's workplace does not support his involvement in addressing the daily needs of his children, such as doctor and dentist visits, parent-teacher conferences, and so on. This can be exhibited by tacit comments ("why is your wife not doing that?") and policies regarding bonuses and advancement ("he did not stay in the evenings to finish important projects"). These policies and attitudes can result in a lack of involvement by fathers in their child's early childhood program. Further, a man may be uncomfortable working with early childhood staff. Sometimes this might be a new role for him; certainly, the overall female nature of the program can be quite intimidating. Fathers who have friends who also have young children may provide moral support; those that do not may need extra help.

Children Without Biological Fathers in Their Lives

While more and more children do not live with their biological fathers, there are often other men actively involved in their lives—grandfathers, boyfriends, uncles, fathers of other children in the family, and male friends of the family. Early childhood programs need to proactively find a variety of constructive and positive ways to include these men in the program, barring legal or social complications. This can become quite messy, but programs need to find ways to extend father-involvement activities beyond traditional, biological fathers, to these men who are actively involved in the lives of young children. In this entry the word *father* is used to include any important male in the life of a young child.

Ways to Involve Fathers in Early Childhood Programs

There are many ways to involve fathers in early care and education programs that serve their children, including volunteering in the program or the classroom, being an official visitor to their child's classroom, being involved in group parenting education, and leading or participating in program-wide projects.

Volunteering in the Program

The goals for having fathers volunteer include

- to work together with staff for the welfare of the child,
- to learn parenting skills from other parents and program staff,
- to learn fun and educational activities that they can use with their children at home and in the community,
- to have their child feel special when they volunteer, and
- to be a healthy role model to both girls and boys in the program by positively impacting the program.

There are many things fathers can do in the program. They can help in the classroom by assisting in a reading activity, helping children learn woodworking skills, organizing physical games and activities on the playground, playing in the block area, and so on. One approach to volunteering in the program is called parent-child interaction time. In this scenario, the father engages in quality time with his child, rather than being involved in general activities or supervision in the classroom, on the playground, or on a fieldtrip. Sometimes the purpose of this activity is to just spend time together; on other occasions, it may revolve around a specific activity, such as reading a book together, doing a math activity or science experiment, or playing together. In this latter case the teacher assists the father in providing developmentally appropriate activities that can be copied, extended, and elaborated at home and in the community (e.g., in a library or museum).

Official Visitors to the Classroom/Program

Early childhood programs thrive on bringing community members to the classroom to present occupations, and to bring the community to the classroom. Programs should not forget that a great source for these classroom visitors is fathers of children in the program. In one program one of the fathers was a volunteer firefighter. He led the class

on a walk to the nearby fire station, where he showed them the equipment and how to use the fire hoses. The children had a great time putting on the equipment and climbing all over the fire engine. And the daughter of the firefighter was extremely proud of her father!

In another case, a father visited a writing class in an elementary school and showed the students the different books and articles he had published; and in a third example, a grandfather talked to the class about preparing for the school garden in the spring. One caution is not to give more importance to visits by certain kinds of fathers, such as members of professional sports teams. This adds little to the program or to the students' experiences.

Involving Men in Projects in the Program

One great way to involve fathers in a program is to create projects in which they can contribute their skills and passions. Many fathers are skilled in woodworking, construction, and other hands-on activities. Some are also experts in technology. Projects such as building and repairing the playground, remodeling the playground to be accessible, and developing a garden for the program can all work well. One program involved fathers who worked in a local wood factory to design and build a loft in one of the classrooms; another had fathers build puppet screens for every classroom in a large Head Start program. Several fathers in one program would collect clean, soft wood from local lumber stores to keep the woodworks areas supplied. And fathers were in charge of barbecuing the food for the parent picnic in a large, urban Head Start program. The secret of these projects is to find things men like to do and to give them a sense of responsibility.

Group Parent Education

Many early childhood programs provide group parenting education. One way a program can increase father involvement is to create a parenting group just for men—preferably led by a father. Goals for such programs include the following:

- Provide a safe environment for men to talk about parenting. Participants need to know they can express their ideas and concerns, and that different perspectives will be respected. The leader should make sure that all participants accept that whatever is said in the group stays in the group (unless it violates professional ethics). Often selecting a specific topic, such as typical development for different-age children, is a good, nonthreatening way to start the discussion. Also the leader should make sure each father, including those who are less assertive, participates in the discussion.
- Learn about childhood milestones and individual differences, including differences between girls and boys. It is very important for fathers to understand normal development, and be able to have normal expectations. They also need to understand individual differences in children.
- Discuss the challenges of contemporary fatherhood. As already stated, many fathers cannot look to their own fathers for role models; further, in different cultures, immigrant groups, and diverse families, there are different ideas of what father involvement should be. Many fathers also do not experience support from other men—their own fathers, siblings, and peers.
- For many men, discipline and control of their children are important issues; however, in too many cases, their ideas of punishment are ineffective and/or developmentally inappropriate. The leader of the group might want to bring a male expert—possibly of the same cultural background as the men in the group—to discuss appropriate ways fathers can demonstrate power and control with their children, while providing appropriate discipline and guidance.

Conclusion

Historically women have cared for young children—at home, in the community, and in organized early childhood programs. While today more fathers are actively involved with their young children, the early childhood field still focuses on

mother–child interactions, and few men are actively involved in their children’s early childhood programs. Despite barriers to involving men in early childhood programs, there are a variety of ways to include fathers in their children’s programs, including volunteering, official classroom visitors, projects, and group parenting education.

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See also Men in Early Childhood Education; Outdoor Play Spaces; Parenting Support and Education; Rough and Tumble Play

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FATHERS IN EARLY INTERVENTION

Fathers in early intervention refers to fathers’ active participation in early intervention services for children who have been identified or are at risk for disabilities. This entry (a) discusses the importance of fathers’ involvement in early intervention, (b) delineates barriers to father involvement, and (c) highlights ways to encourage father involvement.

Overview

An ecological and ecocultural viewpoint provides a framework for recognizing the importance family and culture play in child development. Research demonstrates a positive relationship between parental involvement and children’s academic,

social, and emotional outcomes throughout children’s school years and beyond. Parental involvement is a protective factor for children with disabilities as well as children and youth from culturally diverse backgrounds and low-income families.

Recently, more attention has been given to father and father figure involvement in early education. Father involvement in early intervention contributes to a child’s cognitive development, communication skills, emotional regulation, functional skills, self-care, and social competence. Moreover, research indicates that children who grow up with actively involved fathers gain numerous benefits including (a) increased self-esteem, (b) better academic performance, and (c) healthier relationships with peers.

Family Systems

The importance of father involvement in early childhood education has gained increasing attention over the past two decades due in part to changing family systems. Typically, fathers have been viewed as the “breadwinners” while mothers have been viewed as the “caregivers.” As more mothers work outside the home, parenting responsibilities are changing (e.g., the stay-at-home dad). Modern fathers are caregivers, role models, disciplinarians, and teachers.

Barriers to Father Involvement

Sociologists and anthropologists posit that people are socialized to assume gender-based roles and occupations within a society. For example, historically, many societies place the responsibility of child-rearing on the mother, while the father is expected to work outside of the home. Industrialized societies began rejecting this parenting “agreement” as women began working more outside the home. In the United States, the number of stay-at-home fathers has increased steadily as the number of mothers assuming the role of primary breadwinner has increased.

Research about father involvement in early education often cites barriers that impede a father’s

involvement in early education. The most frequently cited barriers are paternal reluctance and competing commitments. Lack of awareness and negative attitudes by education providers are also mentioned in some of the literature. Other barriers to father involvement in early intervention include the following:

Female Environment. While gender roles and the influence of gender are evolving, early childhood education is still a predominantly female occupation. Consequently, fathers of young children receiving early intervention services are often the only males invited to participate in programming meetings. Unfortunately, some research indicates that fathers often feel that they encounter negative attitudes from school personnel when they are present in educational settings.

Cultural Considerations. Similar to other important aspects of early childhood education, barriers to father involvement in early intervention can only be understood and addressed when viewed through a cultural lens. Many cultures clearly assign the father as the spokesperson for all family matters, including early intervention programming. It should also be noted that some cultures prefer to restrict interactions between opposite genders.

Work Commitments. Just like mothers who work outside of the home, fathers who work outside the home are often limited in their ability to participate in early intervention programming and school. Much of the research about barriers to father involvement in early education points to fathers' work commitments as a major barrier to involvement.

Encouraging Fathers' Involvement

With the growing body of research suggesting the important role fathers play in their children's development, efforts are being pursued to involve fathers in early intervention programs. For example, programs can implement some relatively effortless practices, such as using the father's name on forms and communicating with fathers even if they do not live with their children.

It is critical that fathers are invited to participate in early intervention activities. Therefore, staff training and support services should focus on increasing father involvement. Specifically, staff must learn how to build relationships with fathers, establish communication, and listen to fathers' voices. Another key factor lies in identifying a male "champion" to provide passionate leadership. Studies show that fathers are more likely to participate when specific efforts are tailored to their interests. Additionally, mothers should be involved with the development of initiatives for fathers. Efforts should focus on reducing ambivalence to father involvement and creating an open environment of acceptance.

Conclusion

An environment that facilitates a culture of father involvement in early intervention must be created through a deliberate process. It is important to start slow and build upon program success. Moreover, staff and parents must be aware of their own biases and roles involving fathers in early intervention. It is essential that we create an environment where fathers feel welcome in order to support child development and success.

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See also Cultural Competence; Early Childhood Special Education; Family Partnerships; Family Structure Diversity in the Early Childhood Program; Family-Centered Practices; Home Visits; Home-Based Early Intervention Practices

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Websites

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 National At-Home Dad Network: <http://athomedad.org/about/our-mission/>
 National Fatherhood Initiative: <http://www.fatherhood.org/mission-and-values>
 National Responsible Fatherhood Clearinghouse: <http://www.fatherhood.gov>
 Washington State Fathers Network: <http://fathersnetwork.org/>

FIELD EXPERIENCES

In its 2010 standards for early childhood professional preparation programs, the National Association for the Education of Young Children (NAEYC) states that high-quality field experiences are key components of the professional preparation of early childhood professionals. Field experiences may include observations, practica, home visits, student teaching, or other planned opportunities provided by a teacher preparation program to support the professional development of preservice teachers.

Both early field experiences (e.g., observing, shadowing, or assisting early childhood professionals) and capstone field experiences (e.g., student teaching, internships) are often framed as sites in which preservice teachers apply and practice using the knowledge and skills learned in campus-based coursework and/or develop professional dispositions, attitudes, and expectations. NAEYC considers field experiences to be not only opportunities to apply and practice campus-based learning but also sites of important learning in their own right and authentic opportunities to assess professional growth in the areas outlined in its six core professional preparation standards: (1) promoting child development and learning; (2) building family and community relationships; (3) observing, documenting, and assessing to support young children and families; (4) using developmentally effective approaches to connect with children and families; (5) using content knowledge to build meaningful curriculum; and (6) becoming a professional.

Conceptualizations of Field Experiences

Kenneth Zeichner offers a framework for thinking about the design and implementation of field experiences. The three conceptualizations of field experiences in this framework are based in very different perspectives on learning to teach: learning to teach as increasingly skilled application of technical knowledge and strategies, learning to teach through apprenticeship, and teaching and learning to teach as ongoing inquiry. While not necessarily mutually exclusive, they are useful for examining the range of field experiences offered in early childhood professional preparation programs.

The dominant conception of field experience for many years has been informed by technical-rational theory, which frames teaching as the performance of a set of technical strategies and behavior. Field experiences informed by this theoretical perspective are conceptualized as sites in which knowledge, strategies, and skills learned in campus-based courses are to be enacted and refined in field sites until they can be performed with fidelity. Technical-rational theory and focus on teaching as technical performance are associated with field experiences designed to provide preservice teachers with access to children, time for practice, and feedback on performance. Preservice teachers' success in these field experiences is judged by how closely their performance approximates what was taught in associated coursework and dominant practices in the field site.

Social exchange and social learning theories inform a range of apprenticeship conceptions of field experiences. Field experiences informed by these theoretical perspectives are designed to provide the novice opportunities to acquire professional knowledge and skill from an experienced practitioner in exchange for work. The type and amount of work that the preservice professional might perform can vary based on the experience and skill of the mentor and the time that can be devoted to mentoring as well as the expectations of the preservice professional's campus-based teacher preparation program. The successful student in this form of field experiences is one who learns to

perform in ways that are consistent with those of his or her mentor while also meeting the expectations of the teacher preparation program.

A third conceptualization of field experiences is grounded in the assumption that teaching is not merely a technical skill or performance but is instead a reflective and intentional process based on ongoing inquiry, reflection, and professional decision making. Grounded in sociocultural and adult learning theories, inquiry-oriented field experiences place emphasis on posing and pursuing questions of practice, seeking and testing possible answers while drawing on knowledge and skills taught in campus-based coursework, the wisdom and skill of the experienced practitioners with whom they are placed and their own experiences, and growing funds of professional knowledge. Successful students in inquiry-oriented field experiences regularly engage in questioning, close examination, and critical reflection on the processes and outcomes of their experiences in the field.

While practice-oriented approaches may support the development of skilled performance, they do not provide opportunities for preservice professionals to grow as intentional and empowered professionals as called for in the NAEYC Standards for Early Childhood Professional Preparation Programs. Field experiences that are aligned with standards in early childhood education are best conceptualized as *learning* opportunities rather than merely *practice* opportunities.

Contexts of Field Experiences

Because early childhood education spans birth through age 8, field experiences must necessarily include sites serving infants, toddlers, and children in preschool through primary grades and their families. In a field committed to preparing professionals to serve diverse cultural, language, economic, and geographic populations with a range of physical, social, emotional, and cognitive needs and talents, field experiences must reflect diversity. And because early childhood education prepares professionals to work in settings administered under different auspices—including but not limited to

community and corporate center-based programs, family child care, public and private schools, inclusive and general education classrooms, early intervention programs, community agencies, and policy and advocacy work—field experiences must acknowledge this diversity as well.

The competing demands of providing field experiences across these many populations and sectors while maintaining standards of quality for field experiences are legion. The NAEYC Standards for Early Childhood Professional Preparation Programs acknowledge this reality and stipulate that when a particular site may represent some of the various diversities of the field but not meet all standards of quality for programs serving young children, its value might be judged in terms of the potential for supporting preservice teachers' development in each of the NAEYC professional preparation standards.

Structural and Process Indicators of Quality

When the structures and processes of field experiences are intentionally planned, thoughtfully sequenced, and supported by skilled mentors who engage students in reflection in order to make meaning of their experiences and to evaluate those experiences against standards of quality in early childhood education, the potential of a field experience for supporting preservice teachers' development in field experiences is increased.

Field experiences may be structured in ways that place preservice teachers alone or in partner placements in which two preservice teachers work together in the same site. Field experiences may be or may not be mediated by a supervisor from the teacher preparation program and, if so, the frequency and duration can vary. The work the preservice teachers do may be structured to provide increasing responsibility for parts of the program over the course of the placement and, in student teaching, culminating in solo teaching. Or early field experiences and capstone experiences may be structured following a co-teaching model in which mentor teachers and preservice teachers engage

together in curriculum planning and implementation from the outset.

Currently, there is little data available on the number and duration of field experiences required in early childhood education programs. However, in programs preparing teachers for elementary licensure, which includes teaching young children ages 5 through 8, it is common for teacher preparation programs to require several hundred hours of field experiences prior to student teaching. While in field experiences, the activities in which preservice teachers are invited or required to participate may be determined by the teacher preparation program, the host site, or a combination of both. The degree to which these activities match the developing competencies of the preservice teacher is critical.

The quality of mentoring, coaching, and other forms of support provided by campus-based early childhood professionals and field-based early childhood professionals are significant determinants of the quality of a field experience. Higher quality has been linked, for example, to specialized preparation in early childhood education, stipulated number of years of experience as a practitioner, and training in mentoring or coaching. The conceptualization of field experience largely determines the role and responsibilities of the campus-based and field-based professionals in any particular program, which might include hosting, monitoring, or mentoring the preservice student. In some cases, the campus-based and field-based professionals may be seen as sharing the role and responsibility of teacher educators.

Impact of Field Experiences

Teachers often report that field experiences were among the most important parts of their preparation. However, research on field experiences has yielded little causal evidence of the impact of specific characteristics of field experiences on teachers' pedagogical knowledge and skill and less on the impact on children's development and learning. There is, however, a more robust body of empirical research on the impact of field experiences on preservice teachers' beliefs and attitudes.

Current Critiques and Recommendations

Recent decades have brought increased attention to all aspects of teacher preparation. Critiques of the field experience have focused on the disconnect between campus-based learning and field-based learning and the privileging of academic knowledge over wisdom of practice. Field experiences conceptualized as "apply and practice" opportunities in which skills and knowledge taught in coursework are to be honed are most vulnerable to this criticism.

The National Council for Accreditation of Teacher Education (NCATE) Blue Ribbon Panel on Clinical Preparation and Partnerships for Improved Student Learning P-12 calls for grounding all of teacher preparation in field experiences in which academic knowledge and practitioner knowledge are intentionally linked throughout the teacher preparation program. Connecting learning across campus coursework and field experiences requires skilled professionals in both sites. However, clear and rigorous qualifications for both campus-based and field-based professionals have been found to be lacking. Specialized preparation and experience in the fields in which they are responsible for supporting preservice teachers are called for along with ongoing training in mentoring and coaching novice teachers.

Campus-based laboratory schools where content taught in coursework is demonstrated and students practice implementation and engaging in reflection and inquiry under the guidance of faculty and staff for whom teacher education is an official part of their identity and role provide sites with potential for close alignment of coursework and practical experience. Formal partnership agreements with field sites in which responsibility for teacher preparation is explicitly shared and accountability to all constituencies (the preservice teachers, the children they serve, and the field sites and teacher preparation programs) is a joint responsibility also may serve to reduce the gap and increase the quality of field experiences.

Cynthia Paris

See also Clinical Experiences; Mentors; Student Teaching and Internships, Issues in

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FOUNDATION FOR CHILD DEVELOPMENT

The Foundation for Child Development (FCD) is a private, independent foundation that supports research, fellowships, policy development, and

advocacy that enhance the physical, cognitive, social, and emotional development of young children. Its mission is to harness the power of research to ensure that all children benefit from early learning experiences that affirm their individual, family, and community assets; fortify them against harmful consequences arising from economic instability and social exclusion; and strengthen their developmental potential. For over 100 years, the Foundation for Child Development has used its resources to ensure that all families have the social and material capital they need to raise their children to be healthy, educated, and productive members of society.

FCD's History

The Foundation for Child Development was originally incorporated as a voluntary agency in New York in 1899 and established as the Association for the Aid of Crippled Children (AACC) in 1908. The primary function at that time was to provide assistance to children with physically handicapping conditions in New York City. Contributions from the public supported the work of AACC until 1944, when funds were received from the estate of Milo M. Belding in memory of his wife, Annie K. Belding, who had been a long-serving board member. The development of the polio vaccine led to a shift in the focus of AACC's work toward the study of birth defects, prenatal development, and mentally and emotionally handicapping conditions. In 1972 the Association for the Aid of Crippled Children changed its name to the Foundation for Child Development to better reflect its movement toward becoming an important grant-making institution that could support cutting-edge social research and advocacy on behalf of young children and their families. Eleven individuals have led AACC and FCD from 1908 to 2015: Mrs. E. C. Crawford; Miner C. Hill; Genevieve Wilson; Alice FitzGerald; Leonard W. Mayo; Robert J. Slater, Jr.; Orville G. Brim, Jr.; Barbara B. Blum; Ruby Takanishi; Deborah A. Phillips; and Jacqueline Jones.

FCD's Major Initiatives

Although FCD began its work as a public charity that was founded to address the physical disabilities of young children in New York City, it has evolved into a nationally prominent private foundation with a major emphasis on integrating research, policy, and advocacy that will enhance the lives of young children.

Research

Since its early history, the pursuit of scientific evidence has played a major role in the foundation's work. In 1913 the Association for the Aid of Crippled Children conducted a survey of a small area in the Cherry Hill section of New York City in order to better understand the care that young children with physical disabilities were receiving. The results revealed that most of the children with handicapping conditions were not receiving medical care. AACC was among the funders of the work of Dr. Robert Guthrie, whose research led to the introduction of the first newborn screening test in the United States for phenylketonuria (PKU) in the early 1960s. The disorder, if left untreated, could lead to mental retardation. AACC also supported research that enhanced understanding of the effects of malnutrition on children's development. In addition, over the years, the AACC has participated in other lobbies concerning child health and safety, including the development of legislation requiring seat belts and child restraint systems in vehicles. Support for rigorous scientific research and the linking of research to policy and practice remain central to the FCD mission.

Supporting Junior-Level Researchers

In the 1970s there was growing concern that the next generation of researchers needed to be cultivated. In 1974 the Foundation for Child Development collaborated with the W. T. Grant Foundation to begin a Congressional Science Fellows program, which allowed over 50 grantees to work with members of Congress and gain a deep understanding of the legislative processes that helps translate

knowledge into policy. In 1981 FCD initiated a Young Scholars Program (YSP), an annual competitive program that would provide support to early career researchers for scholarly development and research on the early learning and development of young children living in diverse and low-income families. The Young Scholars Program continues to provide support for junior scholars and enables them to develop research agendas that advance the understanding of child development, particularly in the context of poverty and social exclusion. Over the course of 10 years, FCD supported the work of a select group of junior scholars whose research was focused on the children of immigrant families. This rich body of work has informed the field and provided a deeper understanding of the health, social, emotional, and cognitive development of the rapidly increasing numbers of young children living in families that have migrated to the United States. The research provided information on how best to nurture, educate, and build on the resilience of these young children.

Child Well-Being Index (CWI)

From 1999 to 2013 the foundation funded the Child Well-Being Index (CWI), a measure that combined several sources of national data related to American children into one summary index. The CWI reflected the overall well-being of children in the United States and measured how trends in specific areas of well-being have changed each year since 1975.

PreK–3rd Education

Increased federal, state, and local funding of preschool programs led the Foundation for Child Development to take a closer look at the alignment of standards, curriculum, and assessment across the PreK to third-grade continuum. The transition from preschool to the formal K–12 environment was often seen as challenging for young children and their families, and there was inconsistent communication and professional collaboration between preschool and early elementary level teachers. The standards for preschool programs were often

separate from and unrelated to the state's K–12 standards; curriculum models and assessments were seldom integrated to those of the early elementary grades. In 2003 FCD began promoting a PreK–3 initiative that called for a seamless alignment of standards, curriculum, and assessment in programs serving children ages 3 to 8 years. The PreK–3 initiative proposed a fundamental restructuring of early education so that early care and education professionals across the preschool to third-grade continuum could work together to provide a continuity of services that would lead to a solid foundation for lifelong learning. FCD funded convenings of policy makers and practitioners to consider innovative ways of aligning preschool experiences with the early elementary system. In addition, the foundation provided funding for the National P–3 Center at the University of Washington and for the New America Foundation. These organizations were charged with advancing knowledge and understanding of effective preschool to third-grade strategies and their impact on teaching and learning.

Dual-Generation Programs

Realizing that children grow and develop in the context of their families and communities, the foundation supported a dual-generation/parent engagement initiative. The work was based on the theory that early learning experiences, such as high-quality preschool programs, can be most effective when they are implemented in conjunction with supports for the economic, psychological, and physical health of children's families.

New Directions

Entering its second century, the Foundation for Child Development continues to work in support of its mission to support the health and well-being of young children. However, by 2015 the early childhood landscape had changed dramatically with increased local, state, and federal investment in a variety of early learning programs. Under the Race to the Top—Early Learning Challenge competition, the federal government had invested approximately \$1 billion in funding to support

states in building stronger early care and education systems; every state had early learning standards for 4-year-olds; and localities such as San Antonio and Boston were making significant local investments in preschool programs. The city of New York was investing in and scaling up to a universal prekindergarten program with an articulated goal of providing full-day services to 70,000 4-year-olds. Yet, while the research demonstrated that high-quality programs could have a strong impact on children's growth and development, there was a paucity of evidence that identified the precise elements of these programs that were most effective, or not, for specific groups of children in well-defined contexts. As more early learning and development programs were funded, the research was not clear as to how the quality of the implementation of a specific early learning and development program and/or policy might vary by geographic areas at the national, state, or local levels. Therefore, FCD began 2015 by exploring how, as a foundation, it could best support research that focused on the implementation of early learning programs and advance a more nuanced understanding of why programs were effective, or not effective, for certain young children. FCD committed \$2 million to fund research that would support the New York City preschool initiative.

The foundation also acknowledged that a critical component of the successful implementation of early learning and development programs would be the early care and education professionals who carry out the programs. FCD's efforts turned to three potential workforce-related strategies: highlighting working conditions and compensation levels, improving the quality of instruction, and supporting the preparation and ongoing professional learning of early childhood teachers and leaders with emphasis on institutions of higher education. In 2015 the Institute of Medicine of the National Academies issued a report titled *Transforming the Workforce for Children Birth Through Age 8: A Unifying Foundation*. The report synthesized the science of early childhood development from birth through age 8, listed a set of competencies for early childhood educators, and made a total of 13 recommendations aimed at unifying the

professionals who work with children from birth through age 8. As FCD began to focus its resources on workforce-related issues, the report became a centerpiece for the foundation's efforts to move its vision and mission forward in a changing early care and education landscape.

Jacqueline Jones

See also Child Development and Early Childhood Education; Early Childhood Education; Early Childhood Research and Policy Linkages; Immigrant Children; Policy and Early Childhood Education

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FRAMEWORK OF SIX TYPES OF INVOLVEMENT

It is well documented that educators and parents have important roles to play in guiding young children's learning and success in school. Still, most preschools and elementary schools struggle to conduct effective programs that engage all families in their children's education. Through studies and fieldwork, researchers at Johns Hopkins University developed *School, Family, and Community Partnerships: Your Handbook for Action* that includes research-based approaches that enable schools at all grade levels to develop goal-linked programs of family and community engagement. (In this entry, the word *school* applies to early care

and education programs, formal preschools and kindergartens, and elementary schools that include preschool and primary grades.)

This entry summarizes *essential elements* that improve the quality of partnership programs from year to year. These include research-based structures and processes for organizing effective programs and a framework of six types of involvement for improving school plans and practices to engage all families in ways that contribute to student success, starting at the preschool level.

Essential Elements for Effective Partnership Programs

Studies are accumulating that confirm that, at every grade level, a good school has a challenging curriculum, useful assessments, and a program to engage parents in ways that improve student achievement, attendance, behavior, and other important school outcomes. This new direction changes parental involvement from an extra program—off to the side or left to chance—to an essential component of district and school organization, and a shared responsibility of educators, parents, and other community members.

Hundreds of schools across the country in the National Network of Partnership Schools (NNPS) based at Johns Hopkins University have helped identify specific structures and processes that are needed in goal-linked programs of family and community engagement at the preschool and early elementary levels. The following essential elements help educators, parents, and other family and community members work together to engage all families—not just a few—in students' early reading and math learning, and preparation for kindergarten. If any of the essentials are missing, they must be developed; if present, they can be continually strengthened. They are critical signposts on the path to partnerships.

Leadership. Preschool directors, school principals, and district superintendents strongly and publicly support the development of goal-linked programs of school, family, and community partnerships. A district or organizational leader for partnerships is

identified to promote a culture of partnerships across schools. A strategic plan stipulates that every school is expected to engage all of its students' families in age-appropriate activities that contribute to student learning and development.

Teamwork. Each school identifies an action team for partnerships (ATP) of teachers, parents, administrators, and other partners. The ATP's responsibility is to engage all families in planned activities. The ATP may check with or report to the school improvement team or school council to provide information on the quality and progress of the school's partnership program and to obtain advice or assistance.

One-Year Action Plans for Partnerships and the Framework of Six Types of Involvement. Each ATP writes an annual action plan for partnerships that selects, outlines, and schedules family and community involvement activities for six major types of involvement, which are outlined in the following section. Each year, the plan focuses activities on how family and community partners will help students attain two academic goals (e.g., improve early reading, math, or science skills), one nonacademic or behavioral goal (e.g., improve social behavior or attendance), and one overarching goal to create a welcoming partnership climate at the school.

Implementation of Planned Activities. Planned activities are implemented, challenges identified, and solutions devised to involve all families as partners in their children's education. Most engagement activities raise some challenges to reach families who were uninvolved or wary of the school or teachers. Although these have been referred to by some as "barriers" to partnerships, the challenges can be resolved with creative strategies, for example, to engage families who do not speak English, parents who are employed during the school day, fathers, or families who live at a distance or need transportation to school meetings. Over time, more families—indeed, all families—feel welcome and respected by teachers, contribute ideas, share leadership for the partnership program, and

become engaged in their children's education at school and at home.

Evaluation. The ATP assesses the quality of the school's partnership program each year and identifies challenges to address in the next school year. The ATP may assess progress on each of the essential elements; collect parents' requests for workshop topics; measure parent, student, and teacher satisfaction with the school; and examine other topics to improve the quality of the school's partnership program.

Funding. Adequate funding, preferably with a separate budget line, is essential for planned partnership activities. Practices may be supported by Title I and other federal programs, state and local funds, school and district accounts, PTA/PTO sponsorship, and community in-kind contributions. Partnership programs need not be costly. Some activities are cost-free, but financial support is needed for some activities in each year's action plan for partnerships.

Collegial Support. A school's partnership program thrives when the ATP has collegial support for partnerships from all teachers, school and district staff, parents, and community members. As a team continues to write annual plans, implement creative practices, and evaluate progress, colleagues will increase their understanding of and support for the school's partnership program.

Network Connections. Schools share best practices, raise questions, and solve challenges with other schools in the district, in a region, or across the country. Networking enables an ATP to continue to build knowledge, gather ideas, improve outreach to engage more families, and increase positive academic and behavioral results for students.

The eight essential elements combine to enable a school to plan, implement, evaluate, and continually improve its partnership program, even if school or district leaders change. The ATP is a key structure (replacing an individual who used to be assigned to "work with parents"), but ATP

members are not the only leaders of important engagement activities. A unified partnership program includes school-wide and grade-level activities planned by the ATP; activities of individual and grade-level teachers with their students' families; activities conducted by the PTA/PTO; and other business and community partnerships arranged by the principal or others at school. All family and community engagement activities contribute to the program of a partnership school.

Description of the Framework

In a series of studies, Joyce Epstein developed a framework of six major types of involvement that are separable, with characteristic practices and unique challenges, and that produce different results for students, parents, and teachers. The framework is not, itself, *the* partnership program. It is one of the essential elements of program development linked to the action plan for partnerships. The typology helps ATPs think systematically about how to engage family and community partners in different ways and different locations in goal-linked activities for student achievement and behavior. Because some parents cannot come often to meetings at the school building, the framework of six types of involvement revises expectations from "bodies in the school building" to two-way communications and collaborations at school, at home, or in the community. ATPs use the framework of six types of involvement with activities to do the following.

Type 1: Parenting. Assist families to understand child and adolescent development and establish home environments that support children as students at each age and grade level. Also, help educators to know their students' families and their goals and dreams for their children.

Type 2: Communicating. Communicate with families about school programs and student progress through effective school-to-home and home-to-school connections and technologies.

Type 3: Volunteering. Improve the recruitment, training, activities, and schedules to involve families

as volunteers and audiences at the school and in other locations to support school programs and student learning and activities.

Type 4: Learning at Home. Involve families with their children on homework, talent development, enrichment experiences, and other curriculum-linked activities and decisions.

Type 5: Decision Making. Include all families as participants in school decisions that affect their children and encourage their advocacy for their children. Ensure that parents with diverse backgrounds are leaders and representatives of all parents on school committees, councils, and in the PTA/PTO.

Type 6: Collaborating With the Community. Identify and integrate resources and services from businesses, agencies, and other groups in the community to strengthen and support the school, families, and student learning. Also, organize school and grade-level activities to benefit the community.

Sample Practical Applications of Framework

If a preschool or elementary school is working to increase students' reading readiness, for example, the ATP may activate the six types of involvement in its action plan for partnerships to engage all families with children on reading.

Sample Activities for the Six Types of Involvement to Improve Students' Reading Skills

Type 1—Parenting. Workshop(s) for parents on strategies to read picture books, books without words, and books in various languages at home with young children to strengthen the parent-child bond and to spark children's creativity.

Type 2—Communicating. Parent-teacher-student conferences on students' reading skills and progress, and next steps for parent and teacher to help the student attain or surpass grade-level reading standards.

Type 3—Volunteering. Recruitment and training of parent volunteers as reading buddies or literacy tutors for students who need extra help or practice on early reading, spelling, writing, and listening skills.

Type 4—Learning at Home. Weekly book bags with picture books that children take home for shared reading with a parent, including a laminated guide for parents to ask questions and lead discussions in the language of the home.

Type 5—Decision Making. Parent organization sponsors a book swap for students to exchange favorite books or a book fair for students and parents to purchase new books.

Type 6—Collaborating With the Community. Public librarian prepares summer reading lists by reading level for children, and summer story times for students and parents.

ATPs and other teachers may choose among hundreds of practices or design new and innovative activities for each type of involvement to encourage purposeful interactions of parents, educators, students, and others in the community. For example, there are many ways to use common and advanced technologies for teachers and parents to communicate with each other (Type 2); many ways to organize volunteers to assist educators, students, and families (Type 3); and so on. Each type of involvement requires two-way communications, so that educators and families exchange information and ideas and exercise their shared responsibilities for children's education. Many other family and community engagement activities with children on early reading, early math, and other academic and behavioral skills developed by preschools and elementary schools can be found in the annual *Promising Partnership Practices* reports published by NNPS and available at its website.

Conclusion

A review of research published by MDRC confirmed that parents with diverse backgrounds responded well to direct guidance and became

engaged with their children on literacy and numeracy readiness activities. Parents and children shared reading, had family conversations, practiced letters, counted, played with shapes, did money math and simple addition and subtraction, enjoyed creative dramatics, and conducted other activities. Children increased their reading, literacy, and numeracy skills, on average, more than did children in control or comparison groups whose parents were left on their own or without good guidance. Across studies, children with more engaged parents improved vocabulary, listening comprehension, rates of word reading, narrative storytelling, story comprehension, and reading and math achievement test scores.

Presently, parent and community engagement with children—even in the youngest grades—is mainly left to chance. It is clear that preschool, kindergarten, and early elementary teachers—indeed, educators at all grade levels—must reach out to intentionally engage parents with their children on basic literacy and math skills and school behaviors. With the essential elements and framework of six types of involvement discussed in this entry, every school can establish an equitable and effective program of school, family, and community partnerships to increase students' readiness for kindergarten and progress through the grades.

Joyce L. Epstein

See also Family Engagement Models; Family Partnerships; Parenting Effects on Child Development; Parenting Support and Education; Parents as Teachers

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FREE PLAY, IMPORTANCE OF

A growing number of studies have documented the importance of play, with some research linking free or child-directed play to improvements in a child's ability to develop cognitive skills such as organization and long-term planning. But daily informal play appears to be on the decline in the United States based on numerous factors, including schools' focus on academic learning and efforts to improve test scores, parents' desire for structured activities for their children and concerns about safety, and the introduction of television, video games, and computers. In the United States, children's play has not been seen as a priority, as evidenced by the lack of play opportunities for many children. The United States is the only United Nations member state not to have ratified the 1989 United Nations Convention on the Rights

of the Child, which in Article 31 addresses the right to play.

There are many definitions of play, but they roughly fit into three categories: free or child-directed play, directed play, and highly directed play such as organized sports lessons.

Free play is a universal form, genetically programmed in each individual in what is assumed to be a biological drive of curiosity. This form of play stimulates children's capacity to learn and to develop basic skills and competencies through exploration and engagement with the world around them. In free play children activate their genetic inheritance as part of the earth's bio-system—the play environment of water, dirt, vegetation, and animals.

Directed play includes play where children engage in playful hands-on learning opportunities designed by an adult. The adult role is to work alongside children, to facilitate the activity, and to help create an outcome. Learning centers and projects in the classroom and hands-on activities at children's museums are good examples of this type of play. Traditional games such as jump rope, stickball, chanting games, and chasing games in a sense are a bridge between the free and directed types of play. They are a form of play with directive rules; however, the play is constantly being influenced by context and thus adapted by children themselves. Computer and video games fall into the directed play category.

Organized play and lessons are highly directed by adults. They include organized sports, games found in physical education, and lessons. Children's theater and activities organized by nonprofit or commercial organizations are also in this category. These settings limit and narrow the range of acceptable play responses.

All types of play are important, but free play is an essential need for a child's development. Several factors are evident in U.S. society that affect the future of free play and necessitate far stronger advocacy for play.

Continuing Poverty. More than one out of five children in the United States is living with inadequate provision for survival and development because of poverty and substandard living conditions. In some inner cities, conditions are very similar to those in third-world economies. Children are rearing younger children, performing manual labor, and begging for food rather than playing. Many children are forced to work at life-sustaining chores as soon as they are old enough to follow directions or to understand that if they don't work they will be beaten. Poverty forces children to be miniature adults during the early years. It robs a child's right to free play and presents an uncrossable barrier to other types of play opportunities as well.

Changing Cultural Values. In more affluent communities, there is often an indifference toward the importance of free play. Whereas children traditionally have been shielded from adult responsibilities and encouraged to play, now play is increasingly frowned on by parents who want their children to "learn" at the earliest possible moment. "Learning" means academics, including music or sports skills. Many parents overlook the social and emotional learning that come through play.

Changing School Agendas. Play opportunities have also been eliminated or reduced in many elementary schools across the nation. Recess and lunch "hour" are being sacrificed for increased academic time on task. Administrators and teachers, pressured to exhibit high standardized test scores, have eliminated play even though research shows that children have higher test scores when they have recess. Recess allows children to develop and nurture social and physical skills, and gives them opportunities to work out emotional responses in a setting with few adult restrictions.

In addition to eliminating or scaling back on recess, many elementary schools under-emphasize or negate playful learning opportunities indoors despite the research on how young children (birth to age 8) learn. Many schools have young children sit for long periods with paper and pencil tasks and working on rote memorization

exercises. Children learn through exploring, playing, manipulating, and interacting with their environment by touching and handling objects and materials in order to test their developing cognitive constructs against reality for optimal intellectual growth.

Inadequate Time. According to many sources, childhood and play are rapidly disappearing in the United States and other Western nations because weekly itineraries are jammed with a progression of homework, formal play opportunities, music lessons, Scout meetings, Little League, soccer, and dance lessons. There is not sufficient time to allow children to play informally, to just let them be children in their own space and time.

Increased Dependence on Screens. TV, smartphones, and computer and video games are now part of virtually every child's daily routine. Not only can children be adversely affected by what they view (adult violence, sexuality, language, commercials), but time spent passively watching TV and using technology could be time spent genuinely playing and interacting.

Inadequate Space. Children give life to neighborhoods, yet neighborhoods often have no place to play. Children growing up in high-density cities in apartment complexes have as little as 4 square meters of living and playing space per family. Research shows that the higher the floor of residential occupancy, the less children play. Even some suburban areas have few sidewalks and play spaces devoted to children. For many children walking or riding bikes to a friend's house to play is unsafe. Children need safe spaces close to home in which to play together and to be creative. It is a need that has not received sufficient priority in the development and redevelopment of all neighborhoods.

With play disappearing in the lives of today's children, there are much higher health and fitness risks throughout life than experienced by those children of past generations. Childhood obesity rates in the United States have risen dramatically since the 1970s, and 17% of children and adolescents ages 2 to 19 years old were considered obese

as of 2012. Children who are less active are also more susceptible to other serious health problems such as hypertension, diabetes, and psychological disorders.

Efforts are under way to ensure that more U.S. children have opportunities for free play. These include the work of the IPA/USA American Association for the Child's Right to Play, which among other strategies has promoted the restoration of school recess through preparing and distributing materials for parents and school administrators and has held media campaigns for recess and outdoor play.

Marcy Guddemi

See also Child-Initiated Play; Developmentally

Appropriate Practice; IPA/USA American Association for the Child's Right to Play; Noncurricular Play; Obesity Prevention; Parent and Family Influences on Active Free Play; Peers and Play; Play, Benefits of; Play, Definition of; Play and Early Childhood Education; Rough and Tumble Play

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 IPA/USA American Association for the Child's Right to Play: <http://www.ipausa.org>

FRIENDSHIPS

Friendships are dyadic relationships having six characteristics. They are reciprocal in that each child seeks friendship with the other. They represent preference in that the children seek time with each other rather than other available children.

They are caring relationships in that the children share an affective bond similar to (but less intense than) the bond shared with their parents. Friendships are enjoyable as evidenced by the positive emotions expressed by young friends together. They are a source of mutual support apparent in the frequent pro-social behavior that young children show toward their friends. Finally, friendships persist over time, with the friendships of young children lasting several weeks or months.

Within this definition, very early interaction exchanges among 1-year-olds may not qualify as friendships: Infants and many toddlers may pay attention to another child, imitate another child's behavior or vocalization, or play in complementary or reciprocal ways without forming lasting, mutual attachments. Indeed, conventional wisdom prior to the 1970s was that toddlers were not yet capable of initiating and maintaining friendships with same-age peers. In 2012, careful observations by Areana Eivers, Mara Brendgen, Frank Vitaro, and Anne Borge showed that some 2- and 3-year-olds did show preference, persistence, and mutual selection in peer relationships. Nevertheless, in their study, 24% of kindergarteners did not nominate any of their classmates as "friends you like to play with the most." Thus, a sizeable proportion of kindergarteners do not appear to engage in dyadic friendships.

Children's earliest friendships tend to be "convenience friendships" that occur when children are routinely available to each other as might occur within a day care setting or when children's families are close. Convenience friendships evidence the characteristics of true friendships: For example, 3-year-old Christine entered her day care center every morning, immediately searched for 3-year-old Michael, placed her train hat on Michael's head for the remainder of the day, and the two toddlers spent much of the day playing, eating, and working together. Their friendship lasted for 18 months until Christine moved to another city. Donna Wittmer, Sandra Petersen, and Margaret Puckett (2013) have suggested that the prevalence of convenience friendships may be shifting as more young children spend more time in out-of-home child care and so have more access to age peers.

Young children do not play exclusively with their convenience friend. Their choice of play partners can shift moment to moment if children are attracted away by more attractive games, and socially competent preschoolers must be adept at approaching and joining new groups of peers multiple times during a play period.

By early elementary grades, children transition into “barter friendships” characterized by a choreographed exchange of favors to and responsibilities for each other. Children in barter friendships recognize and track the reciprocity in their friendships. For example, Scott and Quique usually play together at recess, work together on group projects when the teacher allows them, visit each other’s home, and split the desserts from their lunch bags. Socially competent first graders understand that this exchange of favors represents a commitment to their friend, and the number and values of the favors must stay in approximate balance.

Although friendships can occur between people across ages, friendships with a same-age peer are particularly important to children’s development and the opportunities for growth are much greater. Eivers and colleagues (2012) elegantly describe preschool friends as “agents of mutual socialization” (p. 137). Given that both preschoolers in a friendship are social novices, they share responsibility for managing their friendship, communicating, initiating and shaping compromise, resolving conflicts, and coordinating their interactions. Thus, preschool friendships provide a stage within which children can practice essential social skills. Friendships are simultaneously a source of security for young children, allowing them to take risks and try out difficult tasks that they might not attempt alone. The reciprocity of friendships provides children with unique teachable moments when they take each other’s perspective and extend each other’s thinking and learning. This is evident in the children’s play: Carollee Howes (1996) and Wittmer and her colleagues (2013) have found that children’s play is more focused and successful when they play with friends; Gary Ladd (2005) refers to this as partner familiarity, and suggests that it facilitates play quality when children learn to anticipate

their friends’ interests, accommodate negotiated compromises, and predict likely responses.

The role of conflict in young friendships is a topic of much debate. Observational studies by Anne Sebanc (2003) suggest that considerable conflict occurs among preschool friends; this counter-intuitive finding may simply reflect the fact that preschool friends spend a great deal of time with each other and so have many opportunities for conflict. Many of the conflicts that occur are “conflicts of interest” in which one child’s preferences differ from those of the friend. When asked, 5-year-olds state that children should compromise when their interests conflict with their friends’ and explain that they would give priority to friends’ preferences over their own. Still, acting upon a compromise is much more difficult than saying that one should do so, and these conflicting findings may simply reflect the challenge young children face in acting upon their principles.

Sebanc (2003) and Engle and colleagues (2011) report that high levels of conflict in preschool friendships are associated with higher rates of aggression and peer rejection. However, Wittmer and her colleagues (2013) describe peer conflicts as opportunities for reduction of egocentrism; children who never experience conflicts with friends would never encounter differences that prompt them to perspective-take or reconcile.

Taken together, the research suggests that adults are far more likely to underestimate than overestimate very young children’s capacity for peer friendships. Children are more likely to form and benefit from mutual friendships when they have multiple, rich opportunities to play together with age mates. Having fun together is the nourishment that feeds young friendships and prompts children into higher-quality play with familiar play partners. Adults can contribute to emerging friendships by coaching young children in managing the conflicts of interest that will inevitably arise, and by using the friendships to further children’s mutual learning and development.

Beth Doll

See also Emotional Development; Peers and Play; Social-Emotional Development

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FUNDS OF KNOWLEDGE

Sociocultural theories explain ways that humans participate intently in informal family, community, and cultural activities and practices; learn naturally through these; and construct multiple identities. Diversity of, and within, families and cultures is now a global theme. Adopting culturally sensitive and equitable approaches and constructs to guide the education of children from diverse backgrounds is therefore vital.

Funds of knowledge is an empowering construct developed as an early example of culturally responsive pedagogy. Previously, responses to educational achievement lags by ethnic minority children had taken on a deficit approach based on an assumption that the poor quality of these children's home experiences meant they were not able to manage the demands of academic learning. Instead, funds of knowledge approaches explore the rich knowledge and lived experiences of families and cultures that can be drawn on in educational settings to enhance learning. It is therefore a concept of potential value to early childhood education where partnerships between families and educators are strongly promoted. The concept is dynamic, as it changes with each relationship in each family and evolves to new circumstances and cultures. Funds of knowledge can be considered as a theoretical, methodological, and pedagogical tool.

Funds of Knowledge: A Theoretical Tool

The original funds of knowledge research project was led by Norma González, Luis Moll, and Cathy Amanti. It was a partnership between academic and teacher-researchers that explored languages and literacy practices in everyday household activities in bilingual Mexican–Latino communities in Arizona in order to improve primary (elementary) education and student outcomes. A focus on funds of knowledge provides a framework to recognize ways children's knowledge is stimulated by, and arises in, the contexts of their intent participation in everyday activities and experiences. The knowledge and life experience encompassed in this is valued and drawn on in education.

Funds of knowledge were defined as the bodies of knowledge, including information, skills, and strategies, which underlie household functioning, development, and well-being. These included ways of thinking, approaches to learning, and practical skills. For example, children might regularly observe a parent writing a shopping list or reading a recipe. In this way, children gradually develop

early knowledge of literacy embedded in specific family routines and practices. Literacy has continued to be a focus of much work since this original study, but funds of knowledge has also been extended to other subject domains such as history, geography, mathematics, and science. Subsequent research has also considered wider influences of family and community members, such as siblings, friends, grandparents, and teachers.

One criticism of this original work was that the voices and experiences of children and families were reported through teacher interpretation rather than heard directly. Incorporating children's and families' perspectives strengthens the validity of the notion and highlights the pedagogical relationships in which funds of knowledge are developed. Studies that have extended use of the term into early childhood education have emphasized incorporating these perspectives and valuing the funds of knowledge children learn from relationships with peers. Mari Riojas-Cortez's project studied the sociodramatic play of 4- to 5-year-olds in a bilingual program to explore ways that culturally inclusive curriculum could be developed. This work included categories of cultural traits such as parents' language, values, and beliefs; ways of discipline; and the value of education as funds of knowledge. Funds of knowledge has further been used to explain children's interests, account for peers and other adults beyond family members, and identify decisions teachers made in choosing whose and which interests would be selected to create curriculum.

Funds of Knowledge: A Methodological Tool

In the original project, teacher-researchers visited the homes of two or three primary school-age students, and sometimes related community settings, up to three times to gather information about the knowledge families used in their daily lives and the job histories and everyday household practices of families. A funds of knowledge perspective shifts the balance of power toward families as experts while the visiting/interviewing teacher-researchers are positioned as learners. As Norma

González recounts, examples of household activities and routines in which children were involved included

car repair, gardening, home improvement, child-care, or working in a family business or hobby. . . . We asked about music practices, sports, shopping with coupons, and other aspects of a child's life, which helped us develop a composite and multi-dimensional image of the range of possible funds of knowledge. (González et al., 2005, p. 13)

Both the concept of funds of knowledge and the concept of being a teacher-researcher positioned these teachers as agents of change who could then empower all families to participate more deeply in their child's education. A further aspect of the methodology was that teachers shared their findings with each other during study groups. Dialogue between the teachers was identified as important to the success of the project in conceptualizing the connection between households and schools.

The family visits that occurred in Helen Hedges and Maria Cooper's project in early childhood education proved very powerful, including in ways unanticipated by the academic and teacher-researchers' expectations about deepening understandings and making connections across contexts. The visits were transformational by challenging assumptions teachers had (for example, about families and the languages that they spoke), making invisible barriers about communication and understandings explicit and enhancing parent-led communication with the centers.

Funds of Knowledge: A Pedagogical Tool

The pedagogical goal of a funds of knowledge approach is to recognize and incorporate family-based knowledge and expertise in educational settings in order to improve outcomes for diverse children. Marla Hensley was one of the teachers involved in the original funds of knowledge project. During a home visit she discovered that a father played guitar and keyboard and wrote songs and poetry. She asked the father to write

some children's songs and create a musical. Another parent she visited had a background in dance and was asked to help choreograph the musical. Several other parents participated in costume-making workshops. The musical was performed by children five times.

Within play-based early childhood settings, funds of knowledge may be an important way in which children's interests can be recognized, engaged with, and extended. For one set of teacher-researchers in Helen Hedges and Maria Cooper's project the experience of visiting several apartments and shared living spaces prompted changes to the layout of the center. Teachers adapted the previously open plan learning and teaching environment layout to smaller spaces with smaller numbers of play resources to reflect the apartment-style living and shared family spaces. In addition, they invited parent expertise as a contribution to the curriculum: One mother was invited to share her artistic knowledge with children. The teachers at this center found also that they began to reduce a reliance on documentation practices to build relationships, favoring interpersonal approaches instead.

Issues and Developments Related to Funds of Knowledge

Funds of knowledge has been critiqued as a loose notion as it tends to blur the content, sources, and processes of the related learning. However, this may be appealing in early childhood education because the ways that children learn and what they learn are often incorporated together in the form of holistic outcomes. It has also been critiqued as having the potential to essentialize and stereotype cultures unless situated clearly within participatory learning and repertoires of practice framings. Further, families may not be the primary sources of funds of knowledge beyond a certain age when children participate in peer groups and gain access to popular culture and social media sources that introduce alternate kinds and sources of knowledge.

Within early childhood education, there may not always be a straightforward connection

between family activities and practices and children's interests as enacted in a center. For example, as funds of knowledge are embedded in everyday cultural practices, and are implicit, they can be hard to recognize and articulate by parents. Alongside visits, teachers may need to engage in follow-up conversations, ask more probing questions, and/or observe carefully to reveal the funds of knowledge influences.

Funds of knowledge is also not a panacea to addressing diversity and cultural responsiveness, as teachers may still face dilemmas about whether to value or how to recognize and respond to "dark" funds of knowledge such as bullying behaviors. In addition, funds of knowledge may appear to incorporate some gendered beliefs and practices, which may create dilemmas for teachers. Nevertheless, some authors have argued for ways these beliefs and practices might be used beneficially in classroom conversations to debate what and whose knowledge might be legitimated. Therefore a funds of knowledge framing should not be accepted *ipso facto* without accompanying critical thinking.

In addition, while the purpose of funds of knowledge was to use this knowledge to scaffold new learning in the classroom, not just acknowledge and/or replicate it, a clear explanation is yet to be made between this intuitive type of knowledge and conceptual knowledge developed later in formal schooling. Elizabeth Moje and other scholars began to address this through the use of hybridity theory and the notion of "third space," concepts where dialectically opposing ideas can begin to generate new relationships and creative connections.

More recently, funds of knowledge has contributed a new dimension to theories of human identity formation. The term "funds of identity" has been appropriated to explore the range of family and cultural knowledge, beliefs, and practices that contribute to self-knowledge and understandings.

Conclusion

Funds of knowledge has developed over time as a term to include economic, social, linguistic, and cultural capital held by individuals, families, and

groups. Funds of knowledge are cultural resources that can support teachers' understanding of the dynamic nature of children's lives within their families and cultures, and enable teachers to utilize the knowledge gained about communities within educational settings. A funds of knowledge approach has the potential to transform early childhood learning and teaching environments and implement partnerships with families, communities, and cultures authentically. However, it ought not to be adopted uncritically but instead contribute to the range and types of knowledge and evidence that teachers bring to their curricular and pedagogical decision making.

Helen Hedges

See also Curriculum and Early Childhood Education; Diversity in Early Childhood Education; Family Partnerships; Home Visits; Sociocultural Theory

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G

GENDER DIVERSITY

There are two issues related to gender diversity in early childhood: young children's development of gender identity and gender identity of practicing early childhood professionals.

Gender Identity

Acquiring gender identity is complex. Many different sources are involved in helping us understand what it means to be male or female—a man or a woman. Young children are strongly influenced by significant adults in their lives: mothers, fathers, siblings, grandparents, extended family members, caregivers, teachers, guardians, and neighbors. They are also shaped by forces in society and affected by media and culture. These are considered environmental influences, and teach us what to expect about our behavior as females or males. Gender identity also includes our anatomy that defines us through our physical make-up or biology. Young children develop some kind of gender identity as early as age 2 years, although even as preschoolers they do not yet clearly understand what makes them male or female, and they tend to focus on physical appearance or typical or atypical behaviors. For example, if a boy has long hair, his peers might call him “a girl.” And some little girls are considered to be “like boys” if they play in the large-block area wearing a hard hat.

The ways in which teachers interact with girls and boys are connected to their own experiences with gender identity. Gender identity affects their interactions with children in their care and is connected to feelings of self-worth and self-perception, notions about sexuality, and even fears of intimacy. Indeed, gender identity exposes people to their deepest shadows and vulnerabilities. It is at the very core of our being, the foundation of who we are, and how we interact with the world—personally and professionally. Gender identity affects a person's worldview and is directly related to feelings of empowerment or powerlessness. Teachers might convey ambiguity to young children in subtle, unconscious ways. For example, is a particular teacher really comfortable with girls playing in the large-block corner, wearing hard hats and shouting out raucously? Or does that teacher feel the need to shush them or even redirect their play to something quieter, and more feminine? Does a teacher feel comfortable when little boys cry or need support, or does that teacher subtly encourage them to hold back their emotional expression?

Where do early childhood professionals begin to think about how they developed their identity? They might start by thinking about how significant adults in their lives influenced their development in the earliest years, and helped them shape their identity as a woman or a man. Here are some additional questions to help us think about how we acquired our gender identity:

“How did I learn about becoming a woman/man?

What are my earliest memories?

What was fun or painful for me as I learned about these aspects of my identity?

How do I agree or disagree with my parents’ or guardians’ ideas about gender?

If I disagree, how did I develop my own ideas?

What and who were significant influences on me?

If I am a parent or plan to become one, what would I want to teach my own children about gender identity?

What type of stereotypes would I want to avoid?

Which aspects would I want to embrace?”

(Jacobson, 2010, p. 11)

When teachers enter the classroom, they bring with them the personal feelings, early childhood memories, prejudices, values, beliefs, and attitudes that have shaped who they are.

Influence of Media and Culture

Children’s books contribute to, usually unconsciously, reinforcing gender-biased roles of our society. Male heroes are typically adventurous and courageous, solve problems, and are allowed or expected to be naughty or mischievous. Female roles are nurturing. They typically take care of others, cook, clean, and behave in gentle and cute ways. Whether the characters in the children’s books are children themselves or little furry animals like rabbits, kittens, or puppies, the gender roles are usually clear. Children can be taught to become more aware that perceptions and biases are learned through direct and subtle messages within our culture and society. Sharing a different point of view or allowing discussions with diverse opinions challenges us to develop different perceptions. Observing, analyzing, and discussing with others can develop awareness about gender stereotyping. For example, a trip to a toy store is a good way to observe what society informs us about gender stereotypes. Is the girl toy aisle full of the color pink, with dolls and kitchen sets?

Does the boy aisle contain adventurous toys with dark greens, blues, and blacks? A related question is, How do families relate to girl or boy babies?

In addition, there is a growing concern in the field of early childhood education about the “sexualization of childhood” (Derman-Sparks & Edwards, 2010, p. 96), where instead of young children developing their sexual identity gradually and appropriately, they are being greatly influenced by media and popular culture with “graphic sexual images,” where “girls learn that their value is determined by how ‘sexy’ they look, rather than who they are and what they achieve” (p. 96). Boys, on the other hand, learn to not only judge girls by these standards but “judge themselves and each other by how strong and independent they seem—and how ready they are to fight” (p. 96).

Teachers of young children can facilitate discussion or offer different options to counter-balance messages from media and society. Early childhood professionals do this best by developing awareness about these stereotypes themselves.

Gender Diversity and the Early Childhood Profession

Early childhood teachers in child care settings work long, hard hours and are the lowest paid people in the education profession. Most of society views caregivers as just a bunch of women watching a bunch of kids. Some states are realizing the importance of education in the early years by funding and reinforcing prekindergarten programs for 4-year-olds. However, most often they still do not include infant, toddler, and 3-year-old care and education as important enough to require caregivers a quality education or, consequently, a decent living wage. Therefore, teachers and caregivers often feel powerless and under-appreciated from the lack of respect from society for the work that they do.

There are very few men who choose a nurturing profession like child care and education. In fact, men make up about only 20% of the teaching profession. There are a number of theories as to why men are a minority in the early childhood profession. One of the reasons is that child care teachers

are underpaid and most men would not choose a profession that pays so poorly. Some even consider that if more men joined the profession it would raise the status of early childhood education, and then women and men would receive better pay, because society still views female-dominated professions as having less value. Men who choose to stay in the profession often prefer to take more prestigious administrative positions, where the pay is higher than classroom teaching.

Another theory is that society stigmatizes men who choose a profession caring for children. Even today, taking care of young children is seen as a predominantly female profession. In many cases in the United States, families are wary of men caring for their youngest children, fearing that men are more likely to sexually abuse them. These are prejudices and stereotypes. Some of their female counterparts still believe that women better serve early childhood education, because they consider men unable to be nurturing or patient enough to work with young children. Men who work in the early childhood profession suffer discrimination as any cultural minority. Some people believe that men who choose the early childhood profession must be gay. This is yet one more prejudice or stereotype because, in fact, men who work with young children are as diverse a group as their female counterparts or any other group of men.

Gender diversity is a complex subject, and a product of a patriarchal model of society, affecting men and women alike. This is a model based on relationships of competition and dominance, where predominantly White men's views "guide the beliefs and structures that cement the dominant culture" (Jacobson, 2003, p. 25). The work for early childhood teachers is to be activists for changing this model to one with relationships of interdependence and equity, where girls and boys can develop as whole human beings with an identity that is suited to who they are.

Tamar Jacobson

See also Anti-Bias Education, Components of; Anti-Bias Education Theory; Gender Roles; Sexuality Development

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GENDER ROLES

Gender roles are the behaviors, interests, attitudes, and skills that a society or culture considers "appropriate" for females and males. Gender roles are important to understand because they are based on social norms or shared rules about what women and men should do, how girls and boys should act, or what are considered "normal" forms of femininity and masculinity. For example, women are often assumed to be well suited for early childhood teaching because they will bring with them caring attitudes, an understanding of emotions, and other feminized qualities. Or out in

the playground it is often thought that boys will take part in rough-and-tumble play and girls will want to play quieter and less active games. This entry examines how gender roles are explained, raises questions about these theories, and highlights the politics of role modeling.

All societies have gender roles and everyone grows up gendered, even if the content and expectation of these roles in different places and times may vary significantly. Gender roles are related to how families function, how children experience education, how teachers interpret children's behaviors, and the way people present and see themselves in their communities. Everyone belongs to several communities and these can include families, churches, schools, classrooms, and playgrounds. Parents, grandparents, siblings, teachers, teaching assistants, librarians, friends, and even young children are considered to be members of these different communities and take part in enforcing gender roles.

Sex and Gender

Sex and gender are two taken-for-granted concepts that are related to gender roles. Social learning theory is often used to explain sex and gender. This theory assumes that everyone is first born with a sex and then learns how to be gendered. Sex most often refers to biological differences, such as chromosomes, hormones, and internal and external sex organs. Gender, on the other hand, describes the characteristics that a society or culture assigns to the categories of femininity and masculinity and what are considered to be appropriate feminine or masculine behaviors.

Social learning theory is based on observable behaviors. From this perspective, children acquire gender roles by watching others and then imitating models of gender behaviors that they see and value in their lives. Their behaviors are then reinforced when people they trust and respect reprimand and reward their gendered behaviors.

This understanding of sex and gender is popular and easy to understand, but it has been questioned because it positions sex as a biological fact that is universal across all societies and cultures. It

assumes that everyone is born with either male or female sex organs, which is based on unquestioned conventions about an absolute biological division between male and female. This view also fails to account for intersexed or indeterminately gendered people. Although this perspective about sex and gender is easy to understand, it tends to perpetuate gender stereotypes because it presents the binary gender roles as neutral and natural. This explanation of sex and gender is unable to explain why masculine gender roles are consistently privileged over female gender roles.

Sociological Explanations of Gender Roles

Sociology has contributed to understanding gender roles within society. Sociological explanations of gender roles are guided by four theoretical perspectives: functionalism, social conflict theory, interactionist theory, and feminism. These different perspectives vary according to the level of analysis they use to understand gender roles. A macro-sociological analysis focuses on large-scale social phenomena, such as educational trends that are differentiated according to gender roles or the feminization of the early childhood workforce. A micro-sociological analysis attends to the daily interactions between genders, such as how girls regulate what it means to be "cool" or "pretty," or how children treat others who challenge gender stereotypes or engage in cross-gender behaviors on a regular basis. Some of the sociological research on gender roles attempts to bring together both a macro- and micro-analysis to understand how these roles are constructed, maintained, and challenged.

Sociological research on gender roles initially began by examining the sociology of the family and focused on the gendered roles of fathers, mothers, husbands, and wives. More recent sociological research on gender roles attends to gender and family relations across diverse families, such as dual-income-earning families, single-parent families, families from different social and cultural backgrounds, and gay and lesbian families.

Functionalism

Functionalism is a macro-sociological perspective that sees society being made up of different parts that depend on each other. Each of these parts contributes to the functioning of the whole society. This view focuses on how gender roles contribute to the social order or stability within the family. Although this theory was dominant in the mid-20th century, it is no longer considered a sufficient interpretation of the complexity of gender roles for most people.

Social Conflict Theory

This theory proposes that social order is preserved involuntarily through the exercise of power that some social groups hold over another. It analyzes gender roles from a macro-sociological view by attending to economic resources and how they function to give men more power and how these inequalities may promote subservience among women or neglect of issues that currently impact most on women, such as childbirth or domestic labor. This theory asserts that social structures are based on the dominance of some groups (males, husbands, fathers, paid workers, parents) over others (females, wives, mothers, unpaid workers, children). Conflict theory pays attention to the functions of social groups and how they regulate gender roles.

Interactionist Theory

This perspective focuses on micro-sociological views of gender as a social construction and how people “do” gender in everyday life. There has been much research in early childhood classrooms and playgrounds drawing from this theory. Children appear to be learning gender roles most intensively between the ages of 3 and 8, especially through their play. This research shows young children agentic about gender. That is, they perform stereotypical gender roles and gain pleasure from these gender performances. Research shows children as young as 3 years of age working hard to maintain female and male categories. At the same time, they also contest stereotypical gender

roles even though individuals and institutions are regulating them. This research raises questions about social learning theory because it challenges the notion that young children are passively soaking up what they see and then simply role modeling these behaviors. Instead, it highlights how young children take an active part maintaining and resisting gender roles.

Feminism

Sociological research conducted from a feminist perspective brings together micro and macro analysis to understand the impact gender has on everyday relationships and how this plays out in institutions. Most important, it highlights gender bias in society. A significant contribution that the feminist perspective has brought to sociological research on gender roles are the multiple oppressions that people face due to gender, race, and social class. This initial attention to the gender-race-social class link now makes it possible to locate other sites of oppression such as religion, sexuality, age, or disability. Feminist sociology advocates that research about gender roles must take into account the ways in which gender intersects with other social identities.

Moving From Gender Roles to Gender Relations

Most discussions about gender roles emphasize a dichotomy or division between male and female roles. This dichotomy begins with the presumed biological divide between male and female. This difference is then solidified when gender is defined as the social differences that either correspond to that divide, build on that divide, or are caused by that divide.

Basing gender roles on a dichotomy is problematic because it fails to draw attention to the significant differences within any group of women or men, girls or boys. This logic of gender roles is unable to explain the conflicts and the pleasures of those who define themselves outside the traditional and stereotypical masculine and female roles. Furthermore, it also does not allow for the

fact that gender, which is largely cultural, may be much more mutable than body morphology would suggest. Thus, there may not be only two genders, but three, or perhaps many more. Indeed some scholars already consider there to be multiple gender categories, such as differences around sexual desire (e.g., a lesbian-identified person may not be the same gender as a heterosexually identified female-bodied person) or the many permutations of transgender identities.

In the social sciences, there has been a move away from understanding gender as difference or through roles, toward focusing on gender relations. This shift makes it possible to think differently and critically about gender roles and the ways in which this logic promotes stereotypes. Not all gender relations are direct interactions between females and males. Gender relations may be mediated by technology, such as the Internet, and they happen between females and between males.

Gender relations carries with it the idea that rather than embodying or doing a fixed gender role, people may move in and out of diverse situations, which will allow for different kinds of gender relations. Consider, for example, the various gendered relations a boy might experience when cooking with his aunt and when engaging in rough-and-tumble play with same-age peers. Although in both instances the boy may be considered unproblematically male, the gender role he is taking up when seen by an outsider would look very different across these two circumstances.

The Politics of Role Modeling

Shifting from focusing on gender roles to gender relations is difficult to do because the common-sense logic used to understand the relationship between sex and gender dominates much of how society thinks about femininity and masculinity. In addition, how gender roles are acquired through a set of complex social processes that are linked to lifestyles, values, and expectations of particular social groups cannot be easily collapsed into two simple gender roles. Instead, people get a feel for the gender game from the cultures and communities they grow up in and the diverse

range of people and relationships of which they are a part. Children experience these relations in early childhood settings. Concentrating on gender relations requires complex thinking and involves unpacking the politics of role modeling.

One of the interesting ways in which role modeling has been used in early childhood education is related to increasing the number of males in the profession. The claim is that in such a feminized field of teaching, boys need different kinds of role models in their lives, such as male teachers. This discourse of role modeling fails to address the damaging effects of reducing gender identity to normative gender roles. It denies any consideration of how stereotypical gender roles maintain racism, sexism, heterosexism, and homophobia and how these impact teachers' identities, practices, and pedagogical relations with children.

This call for increasing male teachers is political because not only does it rely on a role-modeling discourse, but at the same time early childhood male teachers are mistrusted because of normative gender roles. This mistrust is a form of sexism against men and women. The greater the fear of men in caring for young children, the more common it is to move men out of directly caring for young children and into administrative roles. Not only does this reinforce the stereotype that men are thinkers and women are carers, but this then leaves the women to shoulder the "real" work of early childhood education.

Common-sense understandings of gender roles dominate how society thinks about femininity and masculinity. Since the logic of role-modeling is limited in its capacities to account for the complex dynamics of gender and power, it is important to embrace a range of theories for making links between micro and macro forces at play in people's thinking about gender roles and to understand gender relations. By questioning what we know about gender roles and how we know gender roles, it becomes possible to generate new ways of thinking about gender and being gendered in the world.

Mindy Blaise

See also Critical Theory; Fathers; Gender Diversity; Mothers; Sexuality Development

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GESELL ASSESSMENTS

Gesell Institute of Child Development is a non-profit organization located on the Yale University campus dedicated to promoting the principles of child development for all decisions involving young children. It offers resources for educators and parents to help understand the ages and stages of child development, and how development relates to the individual learning needs of children in the classroom. The institute has two assessments for young children.

Gesell assessments have been used as standardized measures of child growth and development since the introduction of the initial scales in 1925. Long used by pediatricians and revised and updated in 2011, Gesell training and assessment materials focus on direct observation to measure a child's neuromotor, language, cognitive, social-emotional, and adaptive development. The Gesell Early Screener (GES) for ages 3 to 6 years is an instrument that can identify if a child may be at risk for developmental delay. Its more in-depth counterpart, the Gesell Developmental Observation-Revised (GDO-R) for ages 2½ to 9 years, determines a child's overall developmental age relative to chronological age. The GES and GDO-R are complementary assessments designed to be used together in sequence as part of a wider school-based program of screening, assessment, and intervention services. They also can individually be used alone.

The Gesell Early Screener

The Gesell Early Screener 2011 is a screening instrument that assists educators, parents, and other professionals to quickly determine a child's performance level rating (age appropriate, emerging, or concern) in four strands of development: cognitive, language, motor, and social/emotional/adaptive. The GES can be reliably administered by persons with varying levels of experience in 10 to 15 minutes. The GES accurately indicates when further evaluation or observation may be necessary in one or more domains of development. If required, a more in-depth assessment can be achieved with the GDO-R, which measures more deeply cognitive and developmental behaviors through direct observation of the child's responses, processes, organization, overt behavior, and verbalizations on a more diverse set of tasks. If a "concern" is registered in the language, motor, or social/emotional/adaptive strands, a diagnostic assessment in that specialized area is recommended.

The GES consists of eight tasks selected from the GDO-R, a teacher questionnaire, and a parent/guardian questionnaire. The kit includes an examiner's manual, a child recording form that includes a standardized script, a set of manipulatives, teacher and parent/guardian questionnaires, and an auto-calculating version of the GES Strand Scoring Worksheet. It is supported by psychometric data collected from 2008 to 2010 and meets the government mandates for initial screening of a child 3 to 6 years old. The GES requires no specialized training.

Rationale

The rationale for using the GES is twofold: It consists of tasks appropriate for the young child and is based on recent data. Moreover, as a screener, it provides the following essential components:

- A standardized set of tasks that is sensitive to the development of the whole child (social-emotional, physical, cognitive [including language], and adaptive)
- A valid screening measure statistically developed from data collected on a set of GDO tasks

during a national study with a culturally diverse, nationwide sample of children age 3 to 6 years

- Requires no special training and is designed to be administered by persons with varying levels of expertise
- Provides insight into a child's social/emotional/adaptive development, preferences, and behavior at home and in the classroom through parent and teacher questionnaires

Gesell Developmental Observation–Revised

The Gesell Developmental Observation–Revised 2011 is a developmental assessment that should be part of a sound multidimensional assessment system. The assessment assists in understanding characteristics of a child's behavior in relation to typical growth patterns based on sequential, normative stages of development.

The GDO–R is designed for use with children 2½ to 9 years of age, and should be used to inform educators and parents about a child's progress on a developmental continuum. This information is intended to provide insight to guide appropriate instruction and expectations for children based on their developmental stage or level. When combined with other assessments, observations, and reports, the GDO–R contributes to a comprehensive assessment of a child's developmental skills, which is unparalleled in other early education or school placement assessments. The GDO–R can also help determine whether or not a child may need further diagnostic evaluations to decide appropriate planning or remediation in specific areas of development. To maintain the integrity of the assessment, the GDO–R requires participation in a 3-day training workshop. The assessment takes 35 to 45 minutes to administer.

The GDO–R is a performance-based, standardized procedure that measures a child's behavior through direct observation and through surveying parents and teachers. During the child assessment/observation, a sampling of behaviors from various areas of development are observed and then matched with normative patterns of behavior established for each developmental level. In

addition to direct responses to the various tasks, the examiner also considers the child's processes, organization, overt behaviors, and verbalizations in order to determine a child's overall developmental age relative to chronological age.

Description of Tasks by Strand

The primary purpose of the Gesell Developmental Observation–Revised is to observe and evaluate development and academic readiness skills in five areas, or strands:

1. *The Developmental Strand* measures perceptual awareness, visual-motor coordination, short-term visual memory, fine and gross motor skills, and overt behavior. Performance in the Developmental Strand determines a child's developmental age that may be equal to, older than, or younger than the child's actual chronological age.
2. *The Letters/Numbers Strand* measures a child's ability to recognize 26 letters and 12 numbers, to demonstrate one-to-one correspondence, to conserve quantity and perform calculations, and to display short-term auditory memory.
3. *The Language/Comprehension Strand* evaluates a child's attention span, and expressive and receptive language.
4. *The Visual/Spatial Discrimination Strand* measures visual discrimination of written symbols, manipulative shapes, and left and right orientation (for older children).
5. *The Social/Emotional/Adaptive Strand* provides information to evaluate the quality of a child's interactions with peers and adults, emotional regulation behaviors, and self-help skills (using the teacher and parent/guardian questionnaires).

A child's product and process (approach to task) are also evaluated by the GDO–R. Overt behavior is observed for all tasks in the GDO–R, but is scored as part of the Developmental Strand. A child's performance on the tasks for each strand corresponds to the child's performance-level rating for each

strand. Collectively, the performance-level ratings on all strands are used to establish an overall performance-level rating, which corresponds to one of three levels: age appropriate, emerging, or concern.

Description of GDO–R Materials and Kits

The GDO–R Kit includes an examiner’s manual that contains an overview and historical background of the GDO–R, and provides the essential characteristics and behaviors of the ages and stages of development, according to original Gesell theory and other contemporary theories. Complete instructions for administering, recording, scoring, and interpreting results are provided for all tasks. The child recording form is a consumable form (one per child) used by the examiner to record responses to each task as well as verbal and physical behaviors observed during the assessment. The examiner’s script is a spiral-bound booklet that includes the standardized administration script, and the required stimuli cards. The teacher questionnaire collects data about a child’s self-help skills, self-expression, behavioral observations, and classroom preferences. These ratings provide information on three subscales: social behavior, emotional development, and adaptive skills. The parent/guardian questionnaire collects data about a child’s family background and demographics, medical and educational history, home environment, and social, emotional, and adaptive capabilities. The GDO–R kit includes a set of manipulatives.

Rationale

The rationale for using the GDO–R is twofold: It consists of tasks appropriate for the young child and is based on trends determined from recently collected data. Moreover, as an assessment system, it provides the following essential components:

- A standardized assessment sensitive to the development of the whole child (social-emotional, physical, cognitive including language, and adaptive growth)
- A tool for teachers to be keen observers of children, emphasizing developmental levels over chronological age
- Insight into a child’s social-emotional development, preferences, and adaptive behaviors shown at home and in the classroom through parent and teacher questionnaires
- A tool to assist teachers in customizing learning environments so they are developmentally appropriate for all children

The use of the GDO–R system meets both the Individuals with Disabilities Education Act (IDEA) and Head Start mandates. As a standardized tool, the GDO–R can assist in the identification of children who are at risk for developmental, social-emotional, and/or academic disabilities. While not designed to provide a diagnosis of giftedness or specific delays, certain patterns of performance on the GDO–R may indicate that further comprehensive assessment may be necessary in order to gain a deeper level of understanding.

The GDO–R and GES are data-driven instruments designed to help teachers put a child’s developmental profile in a context of learning and lifelong success. When developmental assessments such as the GDO–R and GES are used, it provides a much wider scope of a child’s “next steps” according to normative developmental stages. Perhaps more importantly, it fosters an understanding of observing young learners in multiple contexts that support development (structured play, games, literacy, numeracy, and song). This developmental approach allows individual children to learn at their own pace, rather than follow the prescribed pace of the “pack.” Gesell assessments offer information regarding the whole child, and are invaluable tools in assisting the growth and learning of all young children.

Background

In 1925, pediatrician and psychologist Arnold Gesell first published a set of developmental schedules in *The Mental Growth of the Preschool Child: Developmental Tests for Children 4 Weeks*

Through 5 Years of Age. Still popular today, these schedules are the basis of the 2011 Gesell assessment, known as the GDO–R. The 10,000 participants in Gesell’s work were limited to the children he worked with at the Yale Child Study Center, mainly middle-class Caucasian children from New Haven, Connecticut, and the surrounding area.

During the 1970s and 1980s, school readiness received much public attention. How to serve ready or not-ready children was a predominant topic in the field of education at the time. Pre-first grades, “early fives” programs, prekindergarten, junior kindergarten, and “waiting a year recommendations” were happening virtually everywhere. At one time, 22% of all children were screened using the Gesell assessment to determine readiness for school. During the late 1980s and 1990s, the concept of school readiness became quite controversial. The notion of children being ready or not ready for a school experience was attacked based on the idea that kindergarten teachers should be able to meet the needs of chronologically eligible students, whatever their developmental needs might be. What’s more, some research indicated that waiting a year did not have a significant effect on children’s academic achievement. At the same time, the GDO was justly criticized for lacking the psychometric rigor of other current assessments, and lost favor in many large school districts for this reason.

In order to provide current and scientifically sound normative data to support the validity and reliability of the Gesell assessment, and to appropriately respond to the psychometric standards for technical data demanded by the educational field today, a national study of 1,287 demographically diverse children in 55 schools across 23 U.S. states was conducted. The complete results of the study can be found in the Gesell Developmental Observation–Revised (GDO–R) Technical Report issued in 2012.

Marcy Guddemi

See also Assessment, Limitations of; Authentic Assessment; Developmental Assessment; Gesell Institute of Child Development

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GESELL INSTITUTE OF CHILD DEVELOPMENT

Arnold Gesell (1880–1961) was a physician and psychologist who retired from the Yale Medical School faculty in 1949, just before he turned 70 years of age. In addition to teaching, he founded a clinic in 1911 that would later be renamed the Yale Child Study Center. His pioneering research made notable use of the then-new cinematographic technologies to document the developmental stages of over 10,000 children in terms of verbal, motor, social, emotional, and cognitive growth. He was the first to study and document the stages of development and thus is known as the father of child development. He was also the first school psychologist and thus is known as the father of school psychology.

In addition to caring for children and creating an extensive archive that would enable parents, teachers, and others to better understand children’s ages and stages of development, Gesell also trained physicians, nurses, and research scholars who would spend their careers with children in other settings. Two of his former students, Frances Ilg and Louise Bates Ames, seized the occasion of his retirement to open a nursery school and research institute that would continue to explore children’s

development through adolescence. Ilg, a pediatrician with a sizable inheritance, was able to purchase the properties at 310 and 314 Prospect Street, in New Haven, Connecticut, using 310 for research and 314 for the nursery school. They called the combined properties the Gesell Institute of Child Development. Gesell served as a research consultant until his death in 1961.

Ilg and Ames, who wanted to continue their respective areas of research on early childhood through adolescence and to launch the nursery school, found in Janet Learned the perfect teacher to organize and direct the Gesell Nursery School program. Gesell had founded the Guidance Nursery School at the Child Study Center in 1918 and hired Learned as its director in 1938. Learned agreed with Gesell that children were most apt to thrive when parents and teachers communicated well with each other. She left the directorship of Gesell Nursery School when she married law professor Fred Rodell in 1956, but she continued to be supportively involved with the institute and served on the board of directors until her death.

Teachers at the nursery school were mostly hired from women's colleges; some also came from Europe as interns. The Gesell Nursery School started with 2- and 3-year-olds, but soon added 4-year-olds. Every child was given a developmental examination that teachers and parents were expected to watch so they could better shape their curricular and behavioral expectations to match the needs of each child. The Gesell Nursery School soon became a model for other nursery schools and for students in education programs at Southern Connecticut State and Albertus Magnus Colleges. Gradually stories of its success spread through the country, thanks in part to the syndicated newspaper column Ames wrote weekly and in part to the extensive schedule of lectures and consultations Ilg was called on to give. Among the staff members trained by the institute in the 1960s were Judy August, a Gesell Institute board member, and Sally Provence, who was a professor at the Child Study Center.

While the thriving and solvent nursery school served as a training ground for early childhood educators and pediatricians, the other research and treatment programs of the institute were gradually

absorbing the larger portions of availing dollars. Among the early research programs was an investigation of school readiness. With a grant from the Ford Foundation, Gesell was able to show that a large number of the children failing in elementary school had not been ready to start school when they did; in other words, chronological age does not necessarily coincide with developmental age. More attention needed to be paid to the developmental differences of an individual child or the wide disparity in school readiness between a 5-year-old born right after the school entry cutoff date (the oldest child in a class) and one born in the two or three months preceding the cutoff date (the youngest of the class) of the same year. This research would have a wide impact, and became the incentive for development and publication of many similar developmental assessments, some of which turned on their "parent," so to speak, and built reputations as competing versions. However, many teachers and administrators continued to rely on the original Gesell Developmental Observation (GDO) assessment as the one that best served their children and the only assessment to provide a developmental age for the child.

The institute during the 1950s, 1960s, and 1970s was thriving and was sought out for its research in vision and speech development, and influence on the formation of personality. Many vision school fellows did postdoctoral work at the institute. Multiple clinical services were available for the public, for vision and speech, and psychological counseling through adolescence. The Medical Department was added in 1972. Because the institute was now working with individuals beyond adolescence, its name was changed in 1982 to the Gesell Institute for Human Development.

Despite its successes, the nursery school was unable to sustain itself and closed at the end of its 29th year, in June 1980. Ilg died the following year; she was 81. Ames continued well into the 1990s to teach, to work with the institute's National Lecture Staff (NLS), and to update and publish the institute's year-by-year guides to child development (*Your One-Year-Old*, *Your Two-Year-Old*, on up to 14), which parents today still find as relevant as they did when they were first issued in

the 1940s under different titles. Ames died in 1996 at age 88.

One of Ilg's most important legacies was the formation of the NLS in 1970. This network grew out of Ilg's work with Gesell-trained educators across the country. Women and men who subscribed to Gesell's approach to child development carried on workshops for teachers, parents, and others to introduce them to the Gesell Developmental Observation and show them how to use it properly. To assist her in developing curriculum guidelines, Ilg hired Jackie Haines in 1969 and Norman Heimgartner in 1970, both from Colorado. Heimgartner conducted countless workshops as a member of the NLS and continued to teach the Gesell philosophy at universities in the West, and also in Thailand and China. Today the NLS is still doing the work much as Ilg had envisioned and has 10 staff members conducting about 40 workshops a year in multiple states, with satellite programs in Germany and China.

When the Medical Department and clinic closed in 1989 due to financial hardships, Gesell Institute sold its two buildings to Yale University and used a part of the proceeds to establish the Arnold Gesell Professor of Child Psychiatry, Pediatrics, and Psychology. Linda Mayes was first honored with that appointment and still maintains the position today. She also serves on the institute's Advisory Council. In 1990, Haines became director of the institute. During the 1990s and early 2000s, Haines and Annette Watert, who was hired as the administrative assistant in 1982, were the only staff left (after the death of Ames in 1996). They were able to keep the institute and the NLS alive through the 1990s and into the 21st century due to GDO customers who continued to buy the assessment and schedule workshops across the country.

After some tumultuous times during the 1990s, the board became stronger and reorganized in the years after 2000. The board hired an outsider with a business background, Elyse Waterhouse, to lead the organization in November 2002. She stayed not quite 5 years but was able to accomplish the development of strong business policies, job descriptions, and procedures. Haines retired in 2003.

In November 2007, after a national search, the board hired Marcy Guddemi, a nationally known

child development advocate and expert with considerable experience in educational assessment publishing and a master's degree in business administration, to lead the institute. She immediately embraced the job and set in motion the following:

Updating Assessments. The institute completed a much-needed national re-norming study for the GDO with the psychometric supervision of McREL (Mid-continent Research for Education and Learning). This resulted in the publication of Gesell Developmental Observation-Revised (GDO-R) and the new Gesell Early Screener (GES), both in 2011.

New Professional Image. The institute developed new marketing tools and publications, a new website along with a presence on social media, a presence at the annual National Association for the Education of Young Children (NAEYC) convention with a commercial display, television appearances, a DVD called *Ready for Kindergarten*, and the publication of three new booklets, *Ready or Not for Kindergarten*, *Gesell's Guide for Parents and Teachers: Understand the Relationship Between Families and Schools*, and *Pretend Play and Brain Growth: The Link to Learning and Academic Success*.

A National Conference Marking Gesell Institute's 60th Anniversary. Over 300 people gathered October 10, 2010, at the Omni on the Yale University campus to participate in the Early Childhood LEADership Conference. Featured speaker of the LEAD (Lead, Educate, Advocate, and Do) conference was pediatrician T. Berry Brazelton. The conference proceedings can be found on a free DVD titled *Community Early Childhood LEADership E-Kit*, published in 2012 and available online. The e-kit also includes a 30-minute video on the "Crisis in Early Childhood Education" and a tool kit for conducting community conversations. This e-kit was distributed to every member of the National Association of Elementary School Principals in September 2013 along with their journal, *Principal*.

Name Change. The name of the organization was restored in 2011 to the Gesell Institute of Child

Development, reflecting the return to its original focus on child development.

National Marketing Study. In 2013, under the leadership of board president Barbara Stern, the institute hired Words and Numbers, Inc. to conduct a national marketing study of the organization. Its conclusions resulted in the hiring of a national sales director and a detailed marketing plan.

Positioning the Institute as a Major Player in Advocacy for Young Children. Through numerous speeches nationwide; articles in professional journals, trade publications, magazines, and newsletters; expert advice for journalists seeking information; and involvement in the New Haven Early Childhood Council, Gesell Institute has established itself as a thought leader locally, statewide, and nationally.

Today the institute is both (1) an advocate for young children and (2) a resource for teachers and parents nationwide and internationally in some markets. The institute's mission, as stated on its website, is "to promote the principles of child development for all decision making for young children," with an emphasis on learning through play and the rights of the child as guaranteed by the 1989 United Nations Convention on the Rights of the Child. Meanwhile, the Gesell Institute continues in the same building at 310 Prospect Street, renting its office spaces from Yale and sharing the building with Yale's Edward Zigler Center in Child Development and Social Policy, School of the 21st Century, and the Connecticut Academy of Arts and Sciences.

As Gesell Institute of Child Development celebrated its 65th anniversary in 2015, the institute is poised to launch the next decade of leadership with its Leaders Forum on Economic Development and Early Childhood and subsequent Year of Advocacy. This all based on the pioneering work of its namesake, Arnold Gesell, who once said, "The measure of a society is its reverence for children." The Gesell Institute is one such measure.

Marcy Guddemi

See also Child Development and Early Childhood Education; Gesell Assessments; Maturational Theory

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Websites

Gesell Institute of Child Development: <http://www.gesellinstitute.org>

Gesell Institute's Community Early Childhood LEADership E-Kit: <http://www.geselle-kit.org/>

GIFTED EDUCATION

Young intellectually gifted children are defined as those who have the ability to perform at a level significantly beyond their age cohort. They have a range of characteristics, both cognitive and socio-affective, that set them apart from their chronological age-peers and require modifications in educational contexts.

Cathie Harrison (2003) defined a gifted child as

one who performs or has the potential to perform at a level significantly beyond his or her age peers and whose unique abilities and characteristics require special provisions and social and emotional support from the family, community and educational context. (p. 8)

This definition serves to highlight the special needs that young gifted children have in terms of their social and emotional development and support, as well as special provisions to meet their intellectual needs. In an early childhood setting the interplay and relationships among family, educational context, and community are paramount to healthy development.

Appropriate educational provision for young gifted children is important for a range of reasons. First, all children, regardless of level of ability, are entitled to a stimulating and challenging early childhood education. Second, young gifted children who are not challenged risk experiencing boredom that can lead to underachievement and disengagement with future educational experiences.

Furthermore, young gifted children are a valuable natural resource. As such, there should be an emphasis on nurturing their abilities for the future benefit of society.

Conceptions of Giftedness in Early Childhood

The field of gifted education has its roots in the early 1900s in the work on intelligence by Alfred Binet and Theodore Simon, Lewis Terman, and Charles Spearman. Spearman's concept of general intelligence, or *g*, and issues related to how *g* could be measured in young children meant that there was a perception that giftedness in early childhood could not be validly predicted or measured. Therefore, there was little research conducted in the area. Until the early 1980s, the study of giftedness in early childhood largely relied on retrospective studies, in which the childhood traits of eminent people were analyzed and the characteristics of gifted children in early childhood extrapolated from that evidence.

As concepts of giftedness broadened to include domain-specific aptitudes, such as the work of Howard Gardner on multiple intelligences and J. P. Guilford on the structure of the intellect, it became apparent that young gifted children could be more reliably identified as there were clear indicators of the presence of domain-specific abilities, such as early or self-taught reading. This opened the way for research into the identification of younger gifted children.

Characteristics of Young Gifted Children

Following are the cognitive and socio-affective traits most commonly seen in young gifted children. It is important to note that not all children will display all these traits and that educators should be looking for a cluster of traits when identifying young gifted children.

Cognitive Characteristics

Young gifted children are known for their atypical developmental patterns. That is, they tend to reach developmental milestones earlier than

children of average ability. Where a typically developing child might utter his first word at 12 months, a gifted child may speak at 9 months. Some researchers have characterized giftedness as *asynchronous* or *out-of-step* development. A young gifted child may be chronologically 5 years, but have the reasoning capacity of a 7-year-old and the fine motor skills of a 4-year-old.

Some of the cognitive traits that have been observed in young gifted children include rapid rate of learning; excellent memory and recall; intense curiosity; advanced language, including an early interest in word games and word play; a large and well-developed vocabulary at an early age; highly developed reasoning ability; driving desire to "find out"; and highly observant.

Early and self-taught reading is often associated with giftedness. However, many gifted children do not commence reading until formal instruction at school, so while many early readers may be gifted, not all non-readers are not gifted.

Socio-Affective Characteristics

Just as young gifted children's cognitive development is atypical, so too their socio-affective development may also be advanced. Traits associated with giftedness in young children include a preference for older playmates; early interest in moral issues and abstract concepts such as love, death, and freedom; interest in one particular topic (e.g., dinosaurs, airplanes, road maps) to the point of bordering on obsession; intense sensitivity; and empathy.

It is important to note that most young gifted children have good social skills and are popular with their peers. However, some young gifted children may encounter problems in the early childhood context when their interests and abilities are substantially different to those of their peers. For example, a 3-year-old with an interest in chess may be perceived as "weird" by other children. In turn the 3-year-old may feel frustrated in the early childhood setting if there are no other children with whom she can share her interest. A preference for solitary play, when there are no like-minded children in the early childhood setting, may be misinterpreted by early childhood educators as immaturity.

Identification of Young Gifted Children

Young gifted children can be identified in a variety of ways. Researchers in the field of gifted education have consistently reported that “multiple criteria” identification, where a variety of different sources of information—both subjective and objective measures—are used, is best practice. Objective measures may include traditional tests, such as IQ assessments and other standardized measures of ability and achievement. Subjective information, perhaps more helpful in the early years, includes checklists and anecdotal information from parents and caregivers, early childhood teachers, and medical practitioners (who may have noted early or advanced development). Research has consistently demonstrated that parents are an excellent source of information about their children and better at identifying young gifted children than teachers who have not had training in the field. For this reason information provided by parents and accounts of home behavior should be taken into account when identifying gifted children.

Provisions for Gifted Children in Early Childhood Education

Surveys of early childhood provision in the United States have revealed a lack of programs for gifted children in preschool and kindergarten. Most of the literature relating to giftedness in early childhood has focused on the identification of young gifted children. There has been some descriptive information about types of programs used with gifted preschoolers but little quantitative information or program evaluation.

Paradoxically, despite the lack of provisions for young gifted children, the out-of-home early childhood environment has the potential to be one of the most responsive educational contexts for these children. Researchers have suggested three reasons why this may be so. First, there is a narrower span of mental ages and abilities than would be found in regular school classrooms of older children; second, the child-focused and naturalistic nature of early childhood education is better equipped to

catering for individualized programming, since, unlike in school, there is rarely a set curriculum that has to be followed; and third, early childhood teachers typically use naturalistic and authentic observation of children’s interests and abilities.

Teachers with training in gifted education are known to be more effective teachers of the gifted than those who are untrained and are better able to foster higher-level thinking skills and promote creative thinking. However, there is very little training in gifted education provided for early childhood teachers at the tertiary level. This appears to be a serious omission given the critical importance of the early childhood years for later development.

It is important that a developmentally appropriate response to the needs of young gifted children should not merely be an early introduction to formal schooling. The challenge for early childhood educators lies in finding ways to cater to the advanced interests of young gifted children using play-based and emergent curriculum.

The level of the provision depends, in part, on the level of giftedness of the child. Just as children with more severe disabilities require more extensive educational accommodations than children with mild disabilities, so too exceptionally and profoundly gifted children require different modifications to their educational experiences than children who are mildly gifted.

In the case of exceptionally and profoundly gifted children, usually those identified by a psychologist as having an IQ in excess of 160, early entry to school and subsequent full-year acceleration may be the most suitable educational interventions. The educational needs of mildly gifted children (IQ 115–129) may well be able to be met within the regular early childhood classroom, provided that the educator has an understanding of the traits of young gifted children and a willingness to provide a curriculum that follows the child’s interests.

Rosalind Lee Walsh

See also Child-Initiated Learning; Developmentally Appropriate Practice; Identification of Special Needs; Intellectual Assessment; Intellectual Diversity

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GRADE RETENTION

Grade retention refers to repeating the same grade level in consecutive years. The decision to retain a student is most frequently made when a child experiences difficulty with academic subjects and fails to reach performance standards or appears to be socially immature for his or her age or grade level. Factors that are often associated with an increased risk of retention include living in poverty, frequent changes in school or chronic absenteeism, reading and behavior problems, and difficulties with peer relationships. This entry provides a brief overview of the origins of grade retention, discusses research that informs our understanding of the negative outcomes associated with grade retention, and identifies some effective alternatives to grade retention.

Origins of Grade Retention in the United States

Grade retention was put into place in the U.S. educational system in the mid-19th century as part of the shift toward a system of mass education and the expansion of compulsory education laws. From the 1830s to the 1860s, the percentage of school-age children attending school nearly doubled. In response, schools shifted from multi-age, one-room schoolhouses to a uniform, graded system of education in which cohorts of same-age students were instructed in a prescribed grade-level curriculum. Students' mastery of grade-level content was assessed to determine individual academic achievement and prevent students with academic challenges from advancing to the next

grade. Current research does not support the practice though it continues to be commonplace in the United States, despite the availability of alternative strategies for supporting struggling students.

Outcomes Associated With Grade Retention

Given the widespread practice of grade retention in the United States (estimates exceed 3 million children retained annually), it is notable that collective empirical evidence reveals deleterious effects of grade retention on both academic and social-emotional outcomes. During the past four decades, there have been five seminal reviews that have examined the effects of grade retention on student achievement. Throughout these reviews, academic achievement was generally measured using achievement test scores, grades, or standardized norm-referenced achievement tests. One of the first systematic reviews examining the efficacy of grade retention on student learning was conducted by Gregg Jackson in 1975 and included 30 studies published between 1911 and 1973. The purpose of the review was to determine whether students with academic or socioemotional difficulties generally benefited from grade retention. Jackson concluded that there was no evidence to support the use of grade retention over promotion.

Two meta-analyses conducted by Thomas C. Holmes and colleagues in 1984 and 1989 examined studies published on grade retention and included comparison samples matched on various dimensions such as intelligence, achievement tests, and socioeconomic status (SES). The results of each of these meta-analyses revealed that there were negative effects associated with grade retention, including lower academic achievement, higher socioemotional maladjustment, and lower self-concept. Similar results were found by two more recent meta-analyses, by Shane R. Jimerson in 2001 and Chiharu S. Allen and colleagues in 2009.

Grade retention in kindergarten through third grade has also been linked to negative long-term consequences. Whether students are retained due to academic difficulties or developmental delays, research findings consistently demonstrate that

retention neither benefits students' academic achievement nor enables struggling students to catch up with their peers. Moreover, research has shown that adolescents who were retained during their early childhood years are more prone to emotional distress, low self-esteem, suicidal thoughts, poor peer relations, use and abuse of controlled substances, early onset of sexual activity, and violent behaviors. Retention is also one of the most powerful predictors of dropping out of high school.

Commonly referred to as "academic redshirting," late enrollment in kindergarten is an increasingly popular practice among parents and educators. Another strategy has been "transitional kindergarten" or "transitional first grade," which requires an additional year in either kindergarten or first grade. Since these options do not typically involve any specific targeting of individual needs and often have class sizes equal to any other grade, none have been found to be effective in enhancing academic or adjustment outcomes.

The research indicates that retention does not lead to improvement of educational success and that it is ineffective for addressing academic or social-emotional intricacies. Although students may initially demonstrate academic improvement when retained, numerous studies reveal a decline in gains within two to three years' time. Research has yet to identify particular students who will likely benefit from grade retention, and the research reveals that most students endure negative academic and emotional outcomes.

Based on existing research, grade retention is contraindicated, as it is not supported as an evidence-based intervention and is associated with numerous deleterious outcomes. Numerous studies reveal negative effects of grade retention, including lower academic achievement, higher socioemotional maladjustment, and increased risk for school withdrawal.

Effective Strategies

The confluence of research demonstrates that neither retention nor promotion adequately addresses the needs of students with academic or behavior challenges. Rather, education professionals are

advised to utilize research-based strategies to promote learning and school success by improving children's cognitive and social skills. To effectively benefit children with low achievement or challenging behaviors, a combined approach of promotion plus research-based interventions will likely yield the most positive results.

Although no single intervention will address every child's academic needs, evidence-based practices incorporated throughout their education are likely to facilitate children's academic success. Recommended practices include parental involvement through regular contact with teachers and homework supervision, early reading and developmental programs to support children's academic success and enhance language and social skills, school-based mental health programs to support children in their social and emotional adjustment, tutoring and mentoring programs, summer school, tutoring, and other interventions that target specific academic skills. It is also important to carefully attend to the transition of students from preschool to kindergarten and from kindergarten to elementary school, as evidence shows that children are more successful when they experience continuity. Evidence-based practices should include a focus on remediation for struggling students and also on prevention by supporting all students. Collaboration between all educational professionals and families is key for facilitating student success.

A "promotion plus" model in which students promote to the next grade and receive targeted interventions to address individual needs is recommended as best practice. Key elements include parent-teacher collaboration, high-quality assessment and progress monitoring, and targeted early intervention to address academic and socioemotional difficulties. Implementing these educational practices will foster academic progress and socioemotional development.

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See also Differentiated Instruction and Assessment;
Kindergarten; Multiage Education; Preschool; Primary
Grades; Transitioning

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GRANDPARENT ROLES

Use of the term *grandparent roles* provides a means to define how grandparents might interact with their grandchild. Sometimes it is referred to as styles of grandparenting. There are a number of possible roles for grandparents to fill as they develop a relationship with their grandchild. This means opportunities for grandparents to be creative in finding what works best for them and their grandchild.

This entry addresses an important aspect of early childhood education. Much has been written about the value of intergenerational or skipped-generation interactions. This entry provides a more complete view of family life for both young children and their family.

Overview

There are many similarities in what the roles of a grandparent might be. At the same time, there are also differences. Each grandparent is somewhat unique based on individual interests, talents, and life experiences. So it makes sense that the role of a grandparent includes a variety of possibilities. In other words, the grandparent experience is not identical for each person.

Some differences may come from the configuration of the family. Divorce, remarriage, adoption, or the distance that grandparents live from their grandchildren can make it difficult to build a face-to-face relationship. Technology provides grandparents additional ways to interact with their grandchildren.

Whatever role a grandparent selects can work. Part of the magic is the relationship that develops between grandparent and grandchild. Each seems to bask in the presence of the other. Part of what works so well may be the unconditional love that is shared by both.

Roles of Grandparents

Although grandparents may express similar feelings about their experience as a grandparent, there are differences. Each person brings their own unique self to the experience. Some factors that influence grandparent styles are culture, ethnicity, gender, race, family traditions, family structure, and the experience the grandparent had when they were a grandchild.

Sometimes grandparents-to-be are not at all excited as they anticipate this new relationship. They may view it as a sign they are getting older or think they do not have time for grandchildren. Becoming a grandparent does not mean that the person is old. There is comfort in knowing the decision about the grandparent role is up to the individual. How to be a grandparent is whatever that person chooses.

Just as having a relationship with both parents is important to a child, having a relationship with grandparents is important in the life of the child. Grandchildren are equally important to their grandparents. This is true of grandparents, step-grandparents, adoptive grandparents, or grandparents

who find themselves in the role of raising their grandchild. The unconditional love each has for the other can make the grandparent–grandchild relationship a special one for both sides.

Ongoing research by Arthur Kornhaber and Kenneth L. Woodward identifies grandparent roles such as family historian, living ancestor, nurturer, mentor, role model, crony, wizard, and hero. Usually grandparents experience more than one of these roles. Let's explore how this might look.

Family historian and living ancestor roles help the past come alive. Whether or not the grandparent is interested in genealogy, grandparents bring memories of the family members they have known. They can share the family history they experienced, as well as history learned from family about ancestors never met. Grandparents may share how family members are related to each other and talk about events that were important to the family. Some grandparents are natural storytellers, sharing memories of past family traditions to be passed on to the next generation. All of this can help children decide how they fit in as part of the family. Remembering the good times and the bad helps family keep life in perspective.

Nurturer, mentor, and role model roles provide grandparents with opportunities to share the characteristics, morals, and values they consider to be important. Caring and positive attitudes allow grandparents to set an example as they encourage the grandchild even in challenging situations. Grandparents may be the caregiver on a temporary or full-time basis. As nurturer, the grandparent may provide food, babysit, drive the child to events, or be a person the child can confide in. They can also be supportive of the child in a variety of situations, thereby demonstrating unconditional love by finding ways to encourage rather than control the child. As mentor, the grandparent teaches skills, knowledge, and attitudes to their grandchild. As a role model, the grandparent sets an example of what is important to them including ethics, religion, and how to handle situations when things do not go as planned. The grandparent can help the grandchild know how to persevere and carry on when a crisis occurs.

Crony, wizard, and hero roles involve the sensitive and creative sides of a grandparent. To be a crony is to play, talk, and share time as an equal with the grandchild. The role of wizard uses imagination and feats that seem possible only through magic. Grandparents have the opportunity to surprise and amaze. A hero role involves trust and respect. It may save the day for the grandchild in the future if the child is comfortable sharing innermost thoughts with a grandparent.

It can be hard to put into words the experience of being a grandparent. Grandchildren make it possible to be exhausted and energized all at the same time. Grandparents are important in the life of their grandchild. But grandchildren are also important in the life of their grandparent.

Patricia Hazelwood Holmes

See also Blended Families; Brain Development; Emotional Development; Family Structure; Family Structure Diversity in the Early Childhood Program

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GRIEF AND LOSS, YOUNG CHILDREN'S UNDERSTANDING OF

Young children are exposed to death and loss, even if adults and the culture at large do not acknowledge or recognize it. They experience the deaths of children, family members, other significant adults, neighbors, pets, bugs, plants, and wild animals, as well as death-related portrayals in the media. Losses can include a family move or a friend who moves away, parental divorce or loss of a parent's dating partner, end of a friendship, or loss of prior preschool environment and teachers when they move on in school. Understanding children's thought processes related to death and loss provides insights for adults into how a child responds to a loss and how to provide appropriate support, including helping the child clarify and manage loss-related experiences. This entry provides information on children's understanding of death and the cognitive, cultural, and experiential elements that influence it, as well as the role that adults play in children's growth in understanding of death and loss.

Overview

Children make active efforts to understand death. It is normal for them to have thoughts, feelings, and curiosity about death. Children's understanding of death and grief is related to their developmental level, current and previous experience with death or other losses, personality, patterns of communication, support or comfort, and societal forces. The attitudes they develop toward death are derived from many sources.

Children do not necessarily think of death in the same ways as adults, but they do develop concepts of death as they try to make sense of their experiences. Young children do not have to grasp finality of death or the cessation of bodily function in order to react to separateness from the deceased. Even young infants recognize loss, as reflected in their display of separation anxiety.

Cognition and Understanding of Death

Young children's understanding of death involves development, over time, of four general components: finality (that death cannot be reversed by magic, food, water or medicine), inevitability (that all living things die, including oneself), cessation of bodily functions (that, unlike sleep, death ends all feeling, movement, thought, and abilities), and causality (understanding that death can be the result of internal or external causes). Children's understanding of death and loss reflects their stage of cognitive development. Toddlers and young preschoolers are egocentric and focus on the here and now. They view death in concrete literal terms, believe death is temporary and reversible, and do not understand that a dead person is nonfunctional. Older preschool-age children engage in magical thinking (that they may have contributed to the death or could bring the person back) and they begin to understand that death is irreversible and universal.

Children move through these stages at somewhat different times and are influenced by their experiences. They also have periods of transition during which they may display characteristics common to the cognitive stage they are exiting, as well as the one they are entering. Children under stress may also regress to an earlier stage of cognitive development. They may also confuse adults by being sad one minute and playing happily the next, a normal reflection of how children deal with crisis.

Because of their cognitive developmental stage, a child's remembrance of events and situations may seem distorted and fragmented to adults. This situation is further complicated by the euphemisms we use to discuss death. The child with concrete cognitive processing who is told, "Grandma is on vacation," may display a strong reaction six months later when the parents plan a vacation. "Going to see Grandpa's body" may imply that he has lost his head.

Revisiting Grief

Some manifestations of grief and questions about loss may not appear until a couple of years later.

In addition, children who experience a significant loss will often revisit the death at later times when they have new developmental and cognitive capacities that enable them to add to what they previously understood in order to create a revised, fuller meaning of the loss. The phenomenon of regrief occurs when children process the experience from a different position than was possible when they were at an earlier stage of development. It can include new questions about the loss, new definitions of death, a different expression of grief, and revised strategies for dealing with the loss.

Experience, Environment, and Culture

Children living in diverse cultural and socioeconomic communities experience death to different extents and in different ways, with varying exposure to violence, starvation, war, multiple losses, television or Internet graphic violence, and direct witness to death.

Through participation in their culture, children learn to think and develop skills for problem solving. Some of the problems they actively seek to solve relate to understanding death, loss, and their related hardships. Some societies or cultures send messages to children that death is not a topic that should be discussed or that death-related events are only for adults. Other societies do not send these messages.

Adults' Roles and Child Understanding of Grief

Based on the messages they received in their culture, adults may disregard a child's grief because they have the preconceived notion that children do not grieve and they believe children are too young to understand. Through this lens adults fail to recognize the signs of a child's grief. Intense sadness, anger, depression, or fearfulness are common feelings of children dealing with grief and loss. The way feelings are manifested depends on the age, cognitive development, culture, and experience of each child. Grieving young children commonly display exaggerated fears; fear and disruption in attachment relationships; repetitive

traumatic play, where themes from the traumatic situation repeatedly appear in their play; and persistent regression.

However, children experience their own grief as well as the grief of those around them, even when adults try to hide their grief. Children's fears can be heightened when adult reactions are unclear or unusual as compared to that adult's normal behavior. Thus, adults' attempts to be strong and hide their grief from children add further confusion. In contrast, adults who model a grieving process, display feelings, and acknowledge that relationships are important aid children in their understanding of loss. Without this, children can be confused as to the value of relationships.

Children benefit from naturally occurring opportunities to learn about death and loss. Attempts to help them avoid experiencing pain, such as exclusion from discussions of death and mourning-related ceremonies (i.e., funerals), or replacing a lost object quickly (e.g., a replacement animal following the death of a family pet, or a new toy to take the place of something lost) deprives them of learning experiences.

Colleen I. Murray

See also Chronic Illness; Cognitive Developmental Theory; Cultural Diversity; Military Families, Children in; Refugee Children; Stress and Resilience in Families

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GUIDANCE WITH GIRLS

Guidance with girls uses developmentally appropriate guidance strategies to help all children, especially girls, develop necessary skills to experience and advocate for environments free from gender bias. Guidance is a widely accepted approach to teaching children the skills and behaviors needed to be successful within a particular environment. Guidance with girls requires adults to examine their current beliefs and guidance practices, and adjust to include gender equality as a goal. This entry examines adjustments to general guidance strategies to provide guidance with girls.

There is broad agreement about developmentally appropriate guidance strategies within early childhood education. Multiple resources identify similar strategies and approaches for guiding young children. Specifically, Dan Gartrell has thorough texts on guidance in early childhood. Most resources do not specifically address guidance with girls. Guidance with girls happens in many ways and in many places—in interactions with girls, with boys, with other adults, and with families. Guidance with girls differs from regular guidance in the ways discussed in the following sections.

Examine Current Beliefs and Practices

Adults need to examine current beliefs and guidance practices to determine ways they may inadvertently contribute to children learning gender biases. Like young children, we receive many messages from family, friends, and media about what it means to be a boy or girl, a man or woman. A core value of early childhood education is equality. The field is predominantly made up of women. Yet the number of women who believe in feminism—defined as equality between the sexes—is low. Because child development theory indicates that understandings of gender identity and gender roles become stable during the preschool years, it is critical that teachers of young children ensure the messages they send promote gender equality. Guidance contributes to what children learn

about gender; therefore, reflecting on guidance practices is the first step toward guidance with girls.

Guidance with girls requires adults to know the gender expectations and models provided for children within home and community. Children may be learning gender models that do not promote gender equality. Conflicting ideas about gender present opportunities to explore issues with children. Having developmentally appropriate conversations with children about gender roles will help adults recognize nascent gender stereotypes that might lead children to exclude themselves or others from important learning opportunities. Conversations with families can explore practices and beliefs that promote or inhibit gender equality.

Specifics to Teach Girls

There are specific things that girls should be taught in order to fully developing their potential. First, girls should be taught that they are strong and capable beings. Many media sources portray women and girls as helpless victims who need saving. This view undermines the development of a positive sense of self. Girls should be taught that what they need, want, say, think, and feel matters. Traditional gender biases teach girls that their needs and wants are less important than the needs and wants of others. When girls offer ideas or suggestions, traditionally they might be discounted or ignored. Myra Sadker and David Sadker's research confirmed that teachers in classrooms tend to respond to boys more quickly and more often than to girls. Adults must listen and respond to girls and be supportive and fair in their interactions. Girls must also be taught how to be assertive *and* caring. The traditional gender scripts teach girls to be nurturing and caring by placing others' needs before their own. Caring is a strength, but we also need to teach girls how to be assertive. Finally, girls need to know how to recognize, respond to, and recover from interactions that discount them based on their gender. We can teach these by adjusting guidance strategies to focus intentionally on guidance with girls.

Have Clear and Consistent Expectations for Children

Making sure a child knows what is expected behavior and consistently addressing behaviors not meeting expectations is a foundational part of guidance. In guidance with girls, expectations for gender equality and inclusion must be consistently promoted. Expecting children not to exclude others from play because of gender is important. If children are excluding other children based on a gender bias, adults must clarify the expectation of gender inclusion and provide opportunities for children to become comfortable playing with mixed-gender groups and with trying new experiences. This will present opportunities for children to examine emerging beliefs about gender and for teachers to help children rethink biased assumptions. If a child is using hurtful gender-related words, adults must intervene to teach prosocial ways of communicating.

Be Firm but Friendly

Being firm but friendly when supporting children in learning behavior expectations is important. Respecting children as they navigate between what is acceptable and not acceptable within a particular environment is critical in making the children feel safe and trust the adults. Guidance with girls requires adults to help children recognize when their actions violate the expectation of gender equality. However, this needs to be done in a nonjudgmental and supportive way. When the expectation for gender equality has been clearly communicated, being firm but friendly when addressing exclusion or unkind actions based on gender is important.

Supportive Environments

Making sure that the environment is designed to support children's success is another feature of most guidance programs. Guidance for girls calls extensively on anti-bias education in examining the early childhood environment. Avoid play materials that are unnecessarily gendered—such

as sparkly art supplies or camouflaged tools. Make sure that posters, pictures, and books reflect girls and boys doing a variety of nonstereotypical activities. Make sure that all children have opportunities to participate in each of the classroom chores. Carefully select gender-neutral language when teaching children. Help children recognize when materials or language within the environment is gender biased.

Teach Problem-Solving Skills and Advocacy

Teaching children to advocate for themselves or others while solving problems is important. Once children recognize that no one should be excluded from activities because of gender, this exclusion presents problems for children to solve. Having teachers support children in learning how to address gender exclusion and respond to gender slights is essential in guidance with girls.

Layna Cole

See also Anti-Bias Education, Components of; Anti-Bias Education Theory; Gender Roles; Reflective Practice

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GUIDED PLAY

When thinking about a child's day, it is common to classify time as playtime (e.g., recess, free play on the playroom floor) or instructional time (e.g., direct instruction in class, worksheets for homework). Indeed, many schools are decreasing recess in favor of direct instruction. However, recent research suggests that a "sweet spot" for learning exists between these two extremes. Guided play, in which a more experienced play partner follows a child's lead, but scaffolds the child's learning via exploration, has garnered much support. This entry reviews this evidence, discusses the benefits of this method, and offers suggestions on how to incorporate guided play in early childhood education settings.

Think about a child learning about shapes. One vision calls to mind a room of students sitting quietly and using worksheets. Another envisions a class playing with a box of shapes but without teacher support. Between these two extremes lies a third alternative.

One can imagine a teacher sitting with students and presenting them with a variety of triangles and other shapes—some isosceles triangles, some fat triangles, some triangles with one acute angle that renders them thin, and some non-triangles with partially open sides. After children play, one child holds up an equilateral triangle and says, "This is a triangle!" The teacher then picks up a skinny triangle and asks the group, "Is this a triangle?" Some children say yes and others aren't sure. The teacher then asks, "Why do you think this is a triangle?" The teacher—qua coach—works with children's responses to encourage them to understand and articulate what all triangles have in common: three closed sides and three corners.

While it may seem more efficient to *tell* children what a triangle is, children given the opportunity to explore and discover this for themselves will know more about triangles than those who were simply told. Kelly Fisher and colleagues found that children who learned via *guided* play, in which the teacher scaffolded their understanding, showed

better learning compared to children just told and to children encouraged to play with shapes on their own. This was especially true for when it came to transferring their shape knowledge to new instances.

The benefits of guided play exist beyond spatial cognition. Researchers such as Geetha Ramani and Robert Siegler found that playing linear math board games has long-lasting benefits for low-income students. Others note benefits of guided play for language learning and literacy. Indeed, support for this kind of playful learning has appeared across hundreds of studies. Louis Alfieri and colleagues completed a meta-analysis comparing unassisted discovery (free play), explicit instruction, and enhanced discovery (guided play). Guided play resulted in the best learning in most circumstances. When adults have a learning goal in mind, guided play is optimal. Guided play requires active, “minds-on” learning, breeds engagement, makes the material meaningful by encouraging the child to link it to previous knowledge, and often involves high-quality social interaction with an adult. Guided play engages children at their “sweet spot,” inviting them to participate and actually think.

Why might guided play offer an effective pedagogy? At first glance, it would appear that direct instruction should promote the best learning. In these contexts, we tell children exactly what we want them to learn. There is no ambiguity. However, a recent proposal by Deena Weisberg and colleagues suggests that guided play may work because it allows children to adopt a positive mindset toward schooling, encouraging them to be agents in their own learning while adults scaffold them toward a curricular goal. Called *mis en place*, this element sets the stage, supporting engagement and questioning. Indeed, Elizabeth Bonawitz and colleagues discuss the “double-edged sword” of pedagogy. When we tell children what we want them to know, it appears that they assume that this instructed information is *all* there is to know; they are no longer willing to engage in exploratory play. They will do what we want them to do without further engagement with the task.

How might one use guided play in early childhood education? The teachers’ role is crucial. They must prepare the lesson with a learning goal in mind, but must allow the child to direct the experience. A teacher attempting to teach a lesson about multiplication and division may put circles (chocolate chips) on the table and tell children to pretend they are bakers creating cookies. If children follow this narrative and explore how to distribute the chocolate chips among the cookies, they may stay active and minds-on while avoiding distraction. Without the teacher, these are just circles on a table; but with the adult supporting this play with a learning goal, this high-quality social interaction quickly becomes a meaningful mathematics lesson, putting children in the most receptive mindset for learning. There need not be tension between free play and didactic instruction. Guided play highlights what is to be learned through inviting children’s participation and maximizing learning.

*Jennifer M. Zosh, Kathy Hirsh-Pasek,
and Roberta Golinkoff*

See also Child-Initiated Learning; Child-Initiated Play; Play, Benefits of; Play, Nature of; Play and Early Childhood Education

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GUIDING BEHAVIOR

In the terms of developmentally appropriate practice, guiding behavior is synonymous with teaching for healthy emotional and social development. The term often used for teaching that guides young children's behavior while empowering healthy emotional and social development is *guidance*. In their landmark 2009 work for the National Association for the Education of Young Children, Carol Copple and Susan Bredekamp establish that good guidance includes both individual and social dimensions.

Individual Dimension

Psycho-neurologists who study brain development increasingly focus on the importance of managing stress as a dynamic in healthy emotional and social development. Due to neurological issues, environmental issues, and often both, some children experience unmanageably high stress levels. Jack Shonkoff and Andrew Garner make the case that this *toxic stress* hyperstimulates the amygdala, the center of the brain that senses threat and triggers stress hormone reactions and related behaviors.

An immediate impact of toxic stress is that the child is quick to show survival (“fight, freeze, or flight”) behaviors, which often include aggression, in relatively normal everyday situations. The child feels threatened and acts out in a mistaken effort to protect physical and psychological well-being. In fact, toxic stress can result in posttraumatic stress-like reactions by the child, often mistaken by adults as willful challenging behavior—the child intentionally choosing to be “bad.”

Megan Gunnar, Adriana Herrera, and Camelia Hostinar report that the long-term effect of toxic

stress on emotional and social development of the child can be devastating. The young child can become vulnerable to a cycle of toxic stress, leading to an aggressive survival reaction that results in punitive adult reaction and peer rejection, which in turn leads to debasement of self-identity and continued toxic stress.

A central goal of guidance is to provide leadership that assists the child to build *resilience*. Ann Masten defines resilience as the ability to use emotional and social skills to overcome, or bounce back from, the effects of difficult conditions and stress in one's life. Karen Cairone and Mary Mackrain write that key in this effort is the creation of external and internal protective factors.

External protective factors are improved conditions in the environment at home and at school that reduce sources of stress in the child's life and restore the child's ability to build trusting relationships with significant others.

Internal psychological factors are attributes and skills that empower the child to manage stress, express strong emotions in non-hurting ways, and build healthy relationships—in other words, to begin a path of healthy emotional and social development.

Directly with individual children, early childhood professionals build a positive relationship (secure attachment) with the child, so that the child's sense of trust grows and a willingness to learn new skills is reinforced. Sustained warm personal contact with the child, both during and outside of conflict situations, is essential. Through this relationship the caring adult guides the child to make gains in initiative capacities, sociability, a sense of humor, perspective-taking, helpfulness, and a willingness to reconcile and forgive.

Cairone and Mackrain report that due to toxic stress, mis-expression of these nascent strengths may occur during conflicts that the young child experiences. This understanding is a key challenge for the adult when encountering challenging behaviors. The adult looks at conflicts as teaching opportunities. There are consequences when

children have conflicts, of course, but for the adult as well as the child. The consequence for the adult is to use a guidance approach that calms all down, mediates the conflict, and teaches what new skills the child can learn at that time, after having calmed down. The consequence for the child is to come to accept that the adult is there to help, and to move forward with emotional and social skill-building.

Gartrell and Cairone illustrate that in relation to other adults, the guidance approach starts with teamwork by staff in the use of coordinated leadership to enhance the child's resilience and empower the child to use emotional and social attributes and skills. Two or more staff persons working as a team often can accomplish what neither one can alone. The focus of collaboration includes work not just directly with the child but also with the child's family. Cairone and Mackrain state that guidance for healthy emotional and social development involves a triad relationship of early childhood professionals, the child, and key family members.

Marilou Hyson and Heather Biggar Tomlinson emphasize that professionals build relationships of mutual acceptance and trust with family members no less than with the children in their care. Using the team approach, they work to overcome occupational, social, and cultural factors that may make both family engagement with the program and productive family-teacher relationships difficult. If individual children are experiencing high stress levels, family members themselves tend to be dealing with adverse life circumstances. Locating and utilizing resources to effect a comprehensive approach with child and family member(s) is an important strategy for early childhood educators. Staff work actively with family members to cultivate mutual trust, and they support the adults in the parenting role.

Social Dimension

In the field of early childhood education, guiding behavior almost always entails group settings and guidance of children within the context of the

group. The use of developmentally appropriate practice maximizes the likelihood that good guidance with individual children extends to all in the group. Terms such as *inclusive communities* and *encouraging classrooms* define the early childhood environment in which all children are supported sufficiently in their emotional development so that they can succeed in social interactions and relationships with peers and adults.

The early childhood professional guards against any individual in the community being subject to rejection and stigma. Avoiding embarrassment is key. In particular, children vulnerable to rejection tend to be active, rambunctious, and sometimes aggressive in their daily behaviors. Caring professionals reject the "80% rule," that if 80% of children in a group are behaving productively and getting along that is "good enough." Educators make professional modifications to the education program, daily schedule, group expectations, and guidance practices to make the community inclusive and encouraging for all.

Recognized practices that widen the circle of developmental appropriateness typically include reducing teacher-directed large groups and activities that require children to sit down and follow directions. Copple and Bredekamp found that active programs, with many choices and a minimum of adult direction, tend to proactively engage young children. Family groups within the class—stable "pods" of a small number of children (typically of different ages) who might eat, rest, and do daily activities together with the same adult leader—enhance relationships among peers and with primary caring adults. Such programs empower mastery (intrinsic) motivation and active lifestyles.

Practices that build encouraging learning communities include regular large-group meetings; predictable routines with intriguing (not chaotic) variations; and attractive, culturally relevant, age-appropriate settings that offer many choices in distinct areas. Group meetings, going beyond traditional circle times, offer opportunities even for very young children to have meaningful community input and to create a climate of mutual respect.

Such practices diminish the occurrence of classroom-caused conflicts that children fall into as a result of frustration, restlessness, and boredom.

Practices that early childhood professionals use in guidance interventions during conflicts—expressed disagreements between people—typically include crisis management, guidance talks, conflict mediation, and class meetings.

Crisis management techniques are used when children have lost emotional control in order to prevent harm, calm parties down, and restore equilibrium so that other guidance interventions can be effectively used. Using firm but friendly practice to help children find a place and time to calm down is central. Sometimes the place is on the teacher's lap.

Guidance talks are used when individual children have experienced a conflict resulting in serious disruption and/or harm to others. After restoring calm (and as soon as the adult can make the time), she or he talks empathetically with the child about how the child saw the conflict, what the consequences of the conflict were, how the child can help others feel better, and what the child can do differently next time to minimize harm and disruption.

Conflict mediation involves the adult using measured methods of leadership when a small number of children have experienced a serious conflict. Typically, the adult uses an interactive procedure to (1) restore calm, (2) identify how each child saw the conflict, (3) brainstorm inclusive solutions, (4) get agreement on a solution and try it, and (5) follow up, such as by having individual guidance talks, reinforcing the children's achievement at resolving the problem, and reiterating alternative non-hurting responses to use in the future.

Group meetings can be held not just as practice to build inclusive settings but also as a situational strategy to resolve conflicts that have become noticeable to many in the group. An example is when a term like *butthead* catches on. The early childhood professional adapts the steps of conflict

mediation described earlier, perhaps skipping step 1 if unnecessary, and perhaps blending steps 3 and 4. Group meetings can be held to resolve such problems as forgetting safety considerations on a group walk or excluding children from joining others at play. They offer positive alternatives to traditional "group punishments," which tend to cause negative dynamics among children and with adults. A few established guidelines often help, such as, "We respect each other's ideas."

Guiding behavior, or guidance, has two dimensions, focusing on the individual child and children in a group setting. In early childhood education the intent of guiding behavior is to empower and facilitate the positive emotional and social development of each child in the group. A key consideration in using guidance is to model and teach an appreciation of the worth of all individuals who are a part of the caring community of young children and adults living and working together.

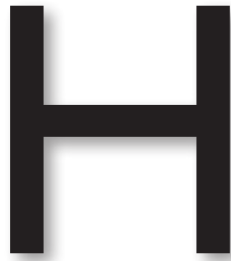
Dan Gartrell and
Michael Paul Gallo

See also Aggression; Challenging Behavior; Emotional Development; Healthy Environments for Social-Emotional Development; Social-Emotional Development

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HEAD START

Head Start is a federally funded program begun in 1965 and aimed at providing services to low-income children. A total of nine presidential administrations have kept Head Start moving forward through reauthorizations, appropriation of funds, and legislation to increase access and quality. Head Start serves as a model for economic investment and early childhood education (ECE). Head Start's contribution to the field of early childhood runs deep as it has developed systems that regulate monitoring, program structures, family engagement, health, and learning in comprehensive ways.

Since its inception, Head Start has made various efforts to remain current and respond to research evaluating its outcomes. This entry briefly summarizes the history of Head Start and provides an overview of the chief components that define the program and how they translate into services for children and families.

History

The Head Start program has been touted as one of the most innovative and steady educational policies ever to be implemented. Despite critical research that cast doubt on its effectiveness, Head Start legislation has been kept alive for 50 years and remains one of the only successful remnants of the Great Society policies of President Lyndon

B. Johnson. The Head Start program was born under the direction of Sargent Shriver, who served as Johnson's director of the Office of Economic Opportunity, and the chief general of the War on Poverty.

Upon uncovering that the largest distribution of poverty in the United States in 1964 fell among children under the age of 12, Shriver decided that the most strategic way to wage a war against poverty was to focus it on children by way of a summer program in 1965. To construct the program, Shriver enlisted a panel of experts including Robert Cooke, a pediatrician at Johns Hopkins University, and Edward Zigler, a professor of psychology and director of the Child Study Center at Yale University.

As the U.S. government responded to research findings on the impacts of poverty on education, the Head Start summer program aimed at increasing IQ scores by impacting not only the children directly, but also their communities and neighborhoods. Included in Head Start's original mission was to offer a comprehensive program that would address children's emotional, social, health, nutritional, and psychological needs. From its inception, Head Start's underpinnings were based on a promise to be culturally responsive to its clients as well as to ensure a collaborative effort between the program and the communities in which they served children.

In the summer of 1965, the government funded Head Start at a rate of \$185 per child. The

program was held in dormant school buildings serving 561,000 children, with the total appropriation at this time being \$96.4 million. Teachers who lacked training in early childhood were quickly hired to fill the job openings. Though the program was under way, the expert panel that helped to develop it was not entirely happy with the structure of the program's routines. Lack of space when schools resumed their session quickly presented a problem. As the program stretched from a 3-month program to a 10-month program in 1966, securing sufficient staff also became a challenge.

During its early days, Head Start fell under the jurisdiction of the Office of Economic Opportunity. There were no legislated standards in place and enrollment grew to serve over 700,000 children. By 1981, Head Start as a summer program was completely dissolved and all programs became year-long. In addition, data collection and reporting were critical components of the program. Beginning in 1968, Head Start issued reports on impacts and descriptive information about participation and program impacts.

In 1994 the Reauthorization Act of Head Start established Early Head Start to offer services to children under the age of 3 and to pregnant women. Migrant Head Start began in the late 1960s to ensure that families of farmworkers also had access to quality child care services. In 1998 the federal government commissioned a study to determine the extent to which seasonal farmworkers had access to Head Start services and found that only 19% of eligible migrant and seasonal children were being served. In response, additional funds were appropriated in 2001 to the Migrant and Seasonal Head Start (MSHS) program. Federal funding for Head Start is now administered by the Administration for Children and Families (ACF), a division of the Department of Health and Human Services.

Infrastructure

Head Start regulations are extremely comprehensive and oversee all aspects of programmatic delivery and quality systems, including how children are recruited and selected and how they are cared

for. The following section briefly outlines some of the major areas that comprise the structural elements of Head Start. These elements define Head Start and ensure its delivery is comparable from site to site and state to state.

Eligibility Requirements

To be considered eligible for Head Start, a child must be at least 3 years of age and meet one or more of the following criteria: his or her family's income is below the poverty line, the family is eligible for other public assistance programs, or the child is homeless or in foster care. While there is some allowance for children who do not meet these requirements to be included, the vast majority of children are selected on the basis of these requirements. Part of the legislation also regulates the acceptable paths through which a grantee is allowed to access this information about families for determination of eligibility.

Reporting and Monitoring

Head Start, in part, owes its success to its systematic and carefully executed monitoring systems. From regulations about reporting on enrollment and demographic data, spending, and attendance, to mandates about classroom quality observations and teacher development, all are collected and reported on yearly. All of these data are reported by way of the program information reports that are available for each year and that include comprehensive data on the services, staff, children, and families served by Head Start and Early Head Start programs nationwide. Also available are program service reports that provide monitoring information on grantees.

Since 2012, Head Start adopted the Classroom Assessment Scoring System (CLASS) as its measure of quality in classrooms and as springboards for professional development. Since that time, the Office of Head Start uses CLASS on a random sample of classrooms to determine grantee-level quality in yearly reviews. Scores are also reported in separate reports on CLASS scores annually, as well as in the Program Service Reports. Data sets

for each of these reports are available to the public on the ACF Early Childhood Learning and Knowledge Center website. In addition, numerous research studies have been commissioned through the Office of Planning, Research, and Evaluation to encourage best practices for Head Start. All of these studies have led to further development of Head Start operations and innovations over time.

Program Options

Head Start programming is available to families by way of either center-based or home-based options. Center-based options vary in terms of offerings related to days per week and hours of operation, but remain the more widely used option, with 96% of Head Start services provided in centers in 2014. Days per week for services range from 4 to 5 days per week, and hours range from less than 6 to more than 6 hours of operation. Center-based programs serving children for 5 days per week for 6 hours represent the largest share of program models, with 43% of programs operating in this way.

Head Start Workforce

The Head Start workforce is a reflection of its mission to engage with the community. In 2014, Head Start reported that parents of children (both those currently enrolled and former students) comprised 24% of the overall staff. The Office of Head Start in the ACF regulates the process for recruitment, hiring, qualifications, and monitoring of all staff covered by each of the program elements, including education, health, parent involvement, and social services.

As of September 2013, at least half of the teachers in each Head Start preschool program had to have a bachelor's degree in early childhood education or an advanced degree in any subject, and coursework equivalent to a major relating to ECE with experience teaching preschool-age children. In 2014, the Office of Head Start reported that 58% of teachers in center-based preschool programs had a BA while 13% had an advanced degree in ECE or a related field. An additional

25% of Head Start preschool teachers had an associate's degree in ECE or another related field. This mandate has shown Head Start's commitment to research, highlighting not only the importance of baccalaureate degrees for teachers in preschool, but also the importance of specified training in ECE as a prerequisite.

National Centers and Technical Assistance

In efforts to build capacity at both the site and individual levels, the Office of Head Start provides professional development to staff and programs through a three-pronged approach. Included are the direct funding of grantees, a state network of technical assistance, and the provision of six national centers addressing topics of quality teaching and learning, cultural responsiveness, health, parental and family engagement, program management and fiscal operations, and Early Head Start. In addition, the Early Learning Mentor Coach Initiative was launched in 2010.

Elements of Services to Children and Families

Head Start's goal is to transition children to kindergarten by preparing them alongside their families to be successful. To do this, Head Start aims to foster learning by addressing children's needs in a highly individualized and responsive manner. Teachers are guided through a framework and ongoing formative assessment of child progress. The following section provides a brief overview of each of Head Start's elements for services provided to children and families in order to ensure school readiness.

Educational and Child Development Services

Head Start's approach to education and child development persists as a key aspect of its mission. The National Center on Quality Teaching and Learning, administered through the ACF, has provided a Framework for Effective Practice that includes environments and interactions, research-based curricula and teaching practices, ongoing

child assessment, and highly individualized teaching and learning. All of these are guided by the Head Start Program Performance Standards and the Head Start Child Development and Early Learning Framework that help to align program goals and school readiness goals to each other. The Head Start Child Development and Early Learning Framework covers 11 domains, including physical development and health, social and emotional development, creative arts, approaches to learning, literacy knowledge and skills, logic and reasoning, mathematics knowledge and skills, science knowledge and skills, social studies and skills, and English language development. In addition, grantees are mandated to choose a research-based curriculum that closely aligns with this framework.

While specific curricula are not prescribed, guidance on how to choose a curriculum and what makes this important are offered to grantees by way of various resources accessible online. Head Start suggests that curriculum be child-driven and responsive to children's interests. Guidance on selection of child assessment tools is similarly provided. Head Start mandates that child assessments be ongoing. The assessments must clearly be well matched to the framework on education and child development.

Teacher development by way of coaching is also an integral piece of Head Start's model. Through coaching and use of CLASS, Head Start seeks to continuously professionalize its workforce. Teacher development in Head Start is guided by a cyclical approach to improving teacher practices through observing, planning, and reflecting on practice with a coach. Data on this process are also recorded and reported.

Health Services

Head Start's commitment to health and safety is based on research that shows that health and safety have impacts on child development. The partnership with families is crucial under these services, as a main part of the goal encompasses the identification, treatment, and continued attention to health- and safety-related issues. Health services in the Head Start model encompass safety

and injury prevention, physical health, nutrition, oral health, mental health, health services management, health literacy, family engagement, and healthy active living. In 2014, Head Start saw a rise in children who had immunizations, health insurance, and ongoing medical and dental care.

Social Services

In addition, Head Start reports that 33% of the 45,000 families who experienced homelessness in 2013–2014 found housing during the year. Other assistance received by families included subsidies, utilities, repairs, and job training/adult education. In 2014, Head Start reported that 74% of families received at least one service.

Parent, Family, and Community Engagement Services

Parent, family, and community engagement have been a cornerstone of Head Start since its birth in 1965. In 1970, Head Start mandated parent participation by way of a policy that required parents be involved in all program decision making and program operation through parent committees, policy committees, and policy councils.

In 2011, the ACF released the Parent, Family, and Community Engagement Framework, a research-based guide for families and programs including markers of progress for both programs and families. Most importantly, the document helps to guide and coach families about how to involve themselves in the education of their young children as well as how to advocate for them. Both of these goals are intended to help families become aware of their ability to be active agents in their children's academic success.

Cultural and Linguistic Responsiveness

The largely marginalized groups that Head Start continues to target remain those who are most at risk for poor school performance. The rising population of Hispanic students has drawn attention and sparked action for educators, researchers, and

policy makers alike. Consistent with national demographic reports about numbers of Hispanics, in 2014 the Office of Head Start reported that 38% of participants are Hispanic and 25% of the families it serves speak Spanish at home.

Since its birth, Head Start has sought to address issues of linguistically diverse learners and in 1972 included language in the Head Start Program Performance Standards requiring that children's cultural identity be built upon and also that staff speak to children in their home languages. In 1991, Head Start released its Multicultural Principles to ensure individualization of experiences for diverse families. These were updated in 2010. In 1996 the Head Start Program Performance Standards expanded to include over 20 standards that range from respecting the home language and cultural backgrounds of children and families to requiring programs to address the needs of dual language learners and their families across multiple services and systems. Head Start reports that over half of the dual language learners that it serves have teachers who are speakers of other languages.

Research on Head Start

Evaluations of the impacts of Head Start are a critical aspect of its long history. Early evaluations tracked impacts on children's IQ, while more recent evaluations have focused on vocabulary growth, early math skill development, and social and emotional skills. While many studies have asserted positive impacts of Head Start, others have pointed out methodological flaws in this research, raising doubt about claims on fade-out.

The Head Start Family and Child Experiences Survey (FACES) seeks to assess children on outcomes across all the focus areas of the program through direct assessments, interviews, and classroom observations. The data from this report allows Head Start to look at overall program quality and its relationship to child outcomes. In the most recent report, Head Start children showed growth in language, literacy, writing, and early math skills. Social and emotional skills also showed gains, including decreases in problem behaviors. Additionally, Head Start provides numerous

reports to Congress on different aspects of programming including evaluations of particular program elements and spending.

Conclusion

Head Start's resources and support services have served as a model as other systems for administering early childhood education have emerged. It is the only initiative directly funded by the federal government to give free access to early childhood care and education. Its commitment to the whole child, families, and communities has been crucial in its staying power as the most powerful advocates have been the families themselves.

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See also Center-Based Care; Early Head Start; History of Early Childhood Education Policy; Poverty Effects; Prekindergarten

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HEALTHY CHOICES AND YOUNG CHILDREN

The early years of life are a critical time of growth and development. Young children are influenced by their caregivers, environment, and learning experiences. This entry provides information about the aspects of and barriers to healthy choices by young children. A summary of an ecological system theory is given, followed by examples of interventions focused on promoting health and wellness.

Young children learn about healthy habits from their parents and other caregivers. Adults determine most aspects of a child's diet and model different levels of physical activity. Health habits acquired during early childhood are important because they are predictive of future dietary and activity behaviors. Unhealthy food choices and sedentary lifestyles in young children can contribute to childhood obesity and future health concerns such as type 2 diabetes and heart disease. Obesity is also associated with psychosocial impacts such as depression, bullying, and social exclusion. Therefore, fostering positive approaches to eating healthy foods and engaging in physical activity can increase children's ability to make healthy choices.

Research

There are many factors that influence health. The increase in the incidence of childhood obesity has led to increased efforts to determine factors that promote health and wellness. Childhood obesity is a complex issue resulting from multiple factors, including, but not limited to, genetics, altered self-regulation, media exposure, parental behaviors, food choices, levels of physical activity, and sleep patterns. Specific genetic components such as metabolic rate, gender, and ethnicity predispose some children to be overweight. Researchers have given special attention to populations that have been identified with higher levels of health risk including African Americans, Latinos, Native Americans, and low-income families. Programs and policies correlated with improving the health of young children and their families are being developed based on this research.

Research findings related to young children and healthy choices include the following:

- Adult modeling of positive attitudes and behaviors related to health can increase children's frequency of healthy eating and physical activity behaviors.
- Young children are more likely to consume healthy foods when they help with preparing food and are given repeated exposure to new foods.

- Young children who regularly eat the evening meal with their family, obtain adequate nighttime sleep, and have limited screen viewing time are less likely to be obese.
- Adults promote physical activity in young children by being physically active and offering children increased opportunities for physical activity.
- Children who develop proficient motor skills at a young age are more likely to engage in physical activities throughout their lives.
- Barriers to healthy food choices include availability and affordability of healthy foods, lack of time to cook, poverty, food insecurity, parenting styles, lower levels of health literacy, and media messages promoting unhealthy eating.
- Barriers to physical activity include lack of recreational areas such as playgrounds and cycling lanes, neighborhood safety, time, parents' physical limitations or health issues, and media messages promoting sedentary behaviors.

Theory

Urie Bronfenbrenner's ecological systems theory is commonly cited as a conceptual framework for defining environmental influences on young children's food and physical activity choices. Young children are directly influenced by the people in their lives and the environment in which they live. Their immediate environment includes the practices, economics, and culture of their family or other caregivers. Likewise, the community environment contributes to societal practices related to eating and physical activity levels. Some communities foster sedentary behaviors and overeating due to the lack of access to recreational physical activities and the higher availability of low-cost, energy-dense, nutrient-poor foods. The interaction between the immediate environment and the community directly and indirectly influences young children and their health choices.

Interventions

Numerous programs and policies are being implemented to promote healthy choices during the early years of life. One of the best approaches to

addressing healthy lifestyles is through programs targeting the entire family. Educational programs have focused on improving food choices, increasing physical activity, and reducing screen time. Interventions have included having children grow gardens, taste new fruits and vegetables, and learn how to listen to their internal hunger and fullness cues to self-regulate their food consumption. Programs have been designed to teach children fundamental motor skills and to create opportunities for children and families to be physically active together. Moderate changes to food choices and physical activity levels have been shown to make a difference to children's health.

Communities have made environmental changes to promote healthy choices such as opening school playgrounds for families to engage in physical activities together and creating safe streets with walking paths and cycling lanes. Additionally, efforts have been made to increase the availability and decrease the cost of fresh fruits and vegetables. Schools and child care facilities have altered menus and are serving healthier food options. These interventions and others are promoting young children's healthy food and activity choices.

Teresa A. Byington

See also Family Health; Family Systems Theories; Movement Education; Nutrition; Obesity Prevention; Physical Education; Wellness Model for Young Children and Families

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HEALTHY ENVIRONMENTS FOR SOCIAL-EMOTIONAL DEVELOPMENT

Social-emotional development has been widely recognized as an important component of early childhood education, and includes children's experience, expression, and regulation of emotions, as well as abilities to establish and maintain positive relationships with others. These social-emotional competencies contribute to children's school readiness, allowing children to enter school prepared to engage and learn with peers and teachers. According to a bioecological perspective, children's interactions with their environments impact their development. Thus, in considering healthy environments that promote social-emotional development, this entry highlights the roles of children's temperaments and environments such as the home and family, child care and schools, and communities and cultures.

The Child and Temperament

Temperament refers to a person's emotional, attentional, and behavioral styles or traits. Children's temperaments are evident in infancy, and these traits are carried forward into adulthood. Effortful control and negative affectivity are two important temperament factors that contribute to children's self-regulation or emotion regulation and adjustment. While temperament

represents the basic building blocks for complex behaviors and personality, children's experiences and interactions with others and with their environments shape children's developmental trajectories and outcomes.

Family Environments and Parenting

Early social experiences and the family system contribute to the development of children's social-emotional competencies, with the home environment often as one of the first and most influential contexts for young children's development. Parents' or caregivers' sensitivity to children's needs and signals are major contributing factors to children's attachment and emotional security. Emotionally secure children enter school ready to establish positive relationships with their peers and teachers. The way parents express emotions with their children also influences the emotional climate of the family. Research has consistently shown that parents' expressions of warmth and positive emotions toward their children are linked to children's social-emotional competence and positive adjustment. By contrast, parents' nonresponsiveness or expressions of hostile and harsh negative emotions toward their children are linked to children's maladjustment.

Parenting styles can be broadly classified by two dimensions of responsiveness and demandingness or strictness. Parents who are strict and unresponsive are classified as authoritarian, while parents who are strict and responsive are classified as authoritative. In general, authoritarian parenting is linked to negative, while authoritative parenting is linked to positive, developmental outcomes. And while both authoritarian and authoritative parents are demanding or strict, the type and amount of parental control over children have impact on children's healthy development. Parental control could be distinguished as structure (e.g., monitoring and limit-setting) versus psychological control (e.g., intrusiveness and coercion). Psychological control is consistently linked to negative developmental outcomes, while structure corresponds more with the strict and responsive combination

characterized by authoritative parenting that is often linked to positive development. In summary, parenting that is empathic and responsive while asserting developmentally appropriate expectations or structure promotes children's social-emotional development.

Child Care and School Environments

In addition to the home environment, many children spend substantial amounts of time in child care, preschool, or primary school environments that are major sources of socialization for children's social-emotional development. Similar to a healthy home environment, child care and school environments that are safe and responsive to children's needs and individuality (temperaments) promote their exploration and learning. Positive student-teacher relationships in which students share caring, yet respectful bonds with teachers support children's socio-emotional growth. This is achieved when teachers show genuine interest in the students' overall well-being and understand children's home environments, developmental levels, and other factors that may influence children's behaviors in the classroom.

Early peer relations and peer play offer important opportunities to hone social-emotional skills such as communication, prosocial behaviors, cooperation, and problem solving. Bonding in the classroom can be created through structuring learning environments that support group projects and small-group lessons. Teachers can also create a positive and supportive learning environment by praising children for prosocial, respectful, and appropriate behaviors in the classroom. Negative behaviors could be prevented or reduced when directions are clearly stated in positive, simple language—stating what you expect students to do instead of what not to do.

In summary, child care and school environments that are safe and responsive to children's needs and offer positive student-teacher and peer relationships provide children with optimal social-emotional growth.

Communities and Cultures

In addition to the day-to-day experiences that children have in the family and school contexts, the communities and cultures in which children are raised are influential in children's social-emotional development. One example is the temperament traits of shyness and behavioral inhibition, where cultural meaning and societal expectations may influence the acceptability of these traits in children. Children who are raised in communities or cultures that are more individualistically oriented are often encouraged to engage in autonomous and self-assertive behaviors. In highly individualistically oriented communities or cultures, shyness or behavioral inhibition might be negatively viewed or evaluated. By contrast, the same temperament traits might be encouraged and preferred in communities or cultures that are highly collectivistic because reserved or restrained behaviors are less likely to disrupt group harmony and group functioning. In this case, children with temperament traits of shyness or behavioral inhibition are less likely to be negatively evaluated and may even be praised or rewarded. However, community and cultural values and norms are dynamic, not stagnant. For example, research on Chinese American immigrant families shows that parents who support their children's autonomy development promoted social-emotional competencies such as emotion regulation and adaptive skills. And while community factors such as poverty and exposure to violence put children at risk for poorer social-emotional development, sensitive and responsive caregiving could protect and promote children's emotional self-regulation competencies.

Conclusion

Children are born with unique temperaments, and their experiences in environments such as the family, child care or schools, communities, and cultures jointly influence their development. Parents, teachers, and peers contribute to children's development of social-emotional competencies such as emotional self-regulation. Environments that are

safe, positive, and responsive to children's individuality (temperaments) and developmental needs support children to grow into healthy, autonomous, socially responsible, and competent people.

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and Michelle M. SooHoo*

See also Bioecological Theory; Emotional Development; Parenting Effects on Child Development; School Readiness; Self-Regulation; Social Skills and School Success; Social-Emotional Competence; Social-Emotional Development; Temperament

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HIGHLY QUALIFIED EARLY CHILDHOOD TEACHERS

Highly qualified teachers embody the highest standards of the early childhood profession. They are able to establish warm and caring relationships with children, promote children's curiosity and love of learning, and foster their development and learning. Standards defining teacher qualifications and competencies are created and assessed by professional organizations, defined in state documents for licensing and regulating teachers, and described in policy documents that outline competencies for practitioners. Although there is no universal agreement within the professional or research literature to define what constitutes a highly qualified teacher, research suggests that highly qualified teachers positively affect children's developmental and learning outcomes and overall program quality. This entry first discusses the credentials available to early childhood teachers, the professional standards that must be met to earn these credentials, and state requirements for preschool teachers to be considered "highly qualified." It then discusses academic degrees for early childhood teachers and research on their significance in preparing teachers for the early childhood setting.

Credentials as Indicators of Highly Qualified Teachers

Credential is the broad term that refers to a specialized qualification that includes certificates and licenses, the official documents or authorization to practice. Examples include the Child Development Associate (CDA) national credential, state teaching licenses or certificates, and National Board for Professional Teaching Standards certification. Credentialing systems apply to teachers of all children. They drive the standards of programs offering coursework leading to the given credential, license, or certificate, setting the bar for quality practice. However, the content of programs that lead to the credential is not uniform, reflecting a lack of consensus in the field regarding the

required knowledge and skills for today's early childhood teachers.

Professional Standards for Highly Qualified Teachers

Professional organizations have identified standards for programs that prepare early childhood teachers. These standards are operationalized as competencies that can be observed and assessed, serving as the basis for awarding credentials by the program. Most of the standards and competencies across early childhood organizations are similar, suggesting that highly qualified teachers share more commonalities than differences. The National Association for the Education of Young Children (NAEYC) standards are used by the Council for the Accreditation of Educator Preparation (CAEP), formerly the National Council for the Accreditation of Teacher Education (NCATE), to accredit initial and advanced early childhood teacher education programs. These standards focus on the competencies students develop in the areas of promoting child development and learning; building family and community relationships; observing, documenting, and assessment children; using developmentally effective approaches to connect with children and families; using content knowledge to build meaningful curriculum; and becoming a professional. These same standards are correlated with the CDA subject areas for teachers pursuing this credential.

The National Board for Professional Teaching Standards (NBPTS) offers the Early Childhood Generalist certification to teachers with 3 years of experience who hold a teaching license as required by the state in which they work. Teachers working with children ages 3 through 8 years can complete the competency-based process to earn recognition as a National Board Certified Early Childhood Generalist. Standards for this credential reflect the competencies identified by NAEYC and NCATE.

The National Association for Early Childhood Teacher Education (NAECTE) identifies highly qualified teachers as having specialized training in early childhood focusing on birth through 8 years of age. According to NAECTE, teachers with a

sound preparation in early childhood are prepared to apply knowledge of child development and teaching strategies to match the way young children learn. These teachers are able to meet the social and emotional needs of young children in ways that nurture development of critical social skills and prevent or address behavior problems; understand that young children's thinking is qualitatively different from that of older children; know how to scaffold children's learning to help them become successful in meeting school expectations; and understand the language and literacy development of children to better support it.

State Standards for Highly Qualified Teachers

The National Institute for Early Education Research (NIEER), in comparing 10 critical areas associated with quality in preschools, identifies four standards related to teacher credentials and training as a point of comparison across the states. State preschool policies are evaluated on whether their programs require teachers to have a bachelor's degree, whether they require teachers to have specialization in preschool education, whether they require assistant teachers to have at least a CDA or equivalent credential based on coursework, and whether they require teachers to have at least 15 hours of annual in-service training.

Early childhood teachers working in public school settings are considered "highly qualified" if they hold the requisite degree and teacher license required by the state and meet the No Child Left Behind Act requirement to hold a bachelor's degree, have state certification and/or licensure, and demonstrate they know each subject that they teach. As a result, there is wide latitude across states for how "highly qualified" is defined and operationalized.

Academic Degrees as Indicators of Highly Qualified Teachers

Teaching young children is a cognitively complex endeavor. Highly qualified teachers are able to skillfully combine explicit instruction with warm interactions that lead to nurturing, trusting

relationships with individuals. These teachers provide responsive feedback, verbal engagement, and cognitively stimulating experiences intentionally designed to promote children's learning within an environment that is neither too regimented nor too unstructured. Children are given choices to explore and play, engaged through multiple input channels within natural settings that are comfortable and predictable.

Because good teaching depends on the teacher's knowledge and skills, highly qualified teachers complete formal, specialized education. The research on the significance of a degree to teach in early childhood has come under close scrutiny. However, it is clear that teachers who have more formal teacher preparation to work with children during the birth to age 8 period tend to provide more appropriate and responsive interactions and tend to have more significant learning and developmental outcomes for children. Highly qualified teachers have content knowledge in the academic disciplines that serves as a foundation for pedagogically adapting that knowledge for instruction with young children. Through teacher education programs, highly qualified teachers learn the strategies for designing curriculum, observing and documenting children's learning and development, evaluating children's progress, and adapting curriculum and environments to meet the needs of all children, including those children who are culturally and linguistically diverse, and children with diverse physical and cognitive abilities and limitations. Through supervised field experiences in multiple settings, highly qualified teachers interact with children and other professionals to gain skill in reflective practices and to systematically study their own teaching.

Teresa Harris

See also Early Childhood Teacher Education; Teacher Preparation Policy and Practice; Transforming the Workforce; Workforce Development

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HIGH-QUALITY EARLY EDUCATION, LONG-TERM BENEFITS OF

This entry discusses the long-term benefits of high-quality early education and how research findings fueled today's emphasis on improving early learning opportunities for all children. The early years of life are a time of rapid growth and development. From birth to age 5, children are constantly exploring their environment. They are learning to communicate verbally, control body functions, self-regulate their emotions, and interact with others. These early years provide the foundation for healthy development and future learning. As a result, the quality of care and education that young children receive during these formative years will significantly influence the trajectory of their lives.

Recognizing the positive impact of high-quality early education, federal, state, and local governments are working to improve early education for all children. This emphasis on early learning, however, was not always a legislative imperative. For many decades government agencies and communities focused only on K–12 education, asserting that early learning was the responsibility of families.

Families, however, had few options when considering preschool education for their children. Furthermore, the opportunities for *high-quality* preschool education were limited by socioeconomic status and geography; in other words, the income level of families and where they lived were often barriers that prevented access to high-quality early education.

Although more early education options are available today, from home-based care and community centers to public preschools, families continue to find it difficult to make an informed decision. Often they do not know what constitutes “high-quality” early education and as a result are not sure what is the best early learning environment for their children.

“High-Quality” Early Education

The National Association for the Education of Young Children (NAEYC) has been a strong advocate for high-quality early education since it was founded by Patty Smith Hill almost 90 years ago. NAEYC provides an accreditation process that is rigorous and based on research-informed best practices. Thousands of early learning centers across the United States strive to meet the high standards of excellence and receive NAEYC accreditation. NAEYC states that early childhood education must adhere to the principles of excellence, access, equity, diversity, and accountability.

High-quality early education programs are multifaceted and are designed to serve both children and families. The following list is not comprehensive, but it highlights basic characteristics of high-quality early education programs.

- The early learning program is designed using research-based best practices.
- Clearly defined early learning standards guide implementation of the program.
- The curriculum is developmentally appropriate and targets the *whole child*: supporting cognitive, social, emotional, and physical development.
- The learning environment is engaging with multiple interest areas: nature center, art center, music center, literacy center, math center, puppet/drama center, block center, dramatic play center.
- Class size is small, enabling teachers to be responsive to and supportive of children’s learning needs.
- Children’s development is monitored and regularly assessed to ensure positive educational, health, and social outcomes.
- Families are involved with program planning and evaluation processes.
- The teachers are well trained and the program provides them with continuous improvement opportunities through intensive supervision, professional development, and instructional coaching.

Research clearly indicates that providing high-quality education for children from infancy to age 5 yields significant long-term benefits. For over 50 years researchers have studied early education. Their findings address both the characteristics of high-quality learning environments for young children and the benefits garnered by the children who attend high-quality programs.

One well-known longitudinal research project, the HighScope Perry Preschool Study, followed 123 children from preschool to adulthood. The researchers found that children who were enrolled in high-quality preschool programs were more likely to graduate from high school, own homes, and have longer marriages. Furthermore, children who attended high-quality preschool programs ultimately earned up to \$2,000 more per month than children who did not have this early learning opportunity.

Another study, the Abecedarian Project, found similar results. Researchers followed 111 children from program entry (infancy) to age 21. They wanted to determine the individual outcomes of a full-day (6 to 8 hours), year-round, high-quality early education program. Their findings indicated that children who attended high-quality preschool programs (infancy to kindergarten) were less likely to repeat grades or need special education placement. Growing up, the children were less likely to become teen parents or get into trouble

with the law. Additionally, as adults, they were more likely to have a skilled job.

The Chicago Child Parent Center Study (CPC) replicated the HighScope Perry Preschool Study, but also focused on the benefits gained if the parent, as well as the child, received services. The CPC study had a relatively large sample size. The researchers followed the development and educational progress of 989 children into adulthood and confirmed the long-term findings of the HighScope Perry Preschool Study and the Abecedarian Project. Data from this study confirmed that children enrolled in high-quality early education programs had higher graduation rates from high school, fewer referrals for special education placement, and a lower rate of juvenile arrest. A cost-benefit analysis of the data collected provided significant results that support the expenditure of public dollars for high-quality early education. The data suggested that for every dollar invested in a child, the purely economic benefit was a \$7.10 return to society. The economic benefit to society included savings on special education services, reduced criminal justice system expenditures, and increased tax revenues once the children were adults.

Beyond these three major research studies are hundreds of additional research projects conducted by researchers throughout the United States. When the findings are synthesized, there is a body of evidence that clearly supports the long-term benefits of high-quality early education. The multiple research studies, however, used many different research designs and hypotheses. Thus, when considering the findings it is most effective to blend the data using a statistical process called a meta-analysis. The research literature cites multiple meta-analyses that summarize the findings from numerous early learning studies. These findings support the following conclusions:

- Early care and education programs have positive effects on young children's cognitive and social development, and these effects can impact future learning.
- Research finds that the early learning programs with the greatest impact on future outcomes for

children are the most educationally intensive and expensive.

- Although all children reap benefits from high-quality preschool education, research suggests that children from economically disadvantaged homes show the greatest gains.
- Both half-day and full-day programs have positive benefits for children, but only full-day programs are linked to economic benefits for families, due to increased parental employment.
- State and local prekindergarten programs with high standards provide the greatest benefits for children and families. These high-quality programs can be implemented successfully in public or private schools.
- Research indicates that high-quality early education programs decrease grade repetition and referrals for special education.
- Graduation from high school is linked to high-quality early education.
- Research indicates that high-quality early education programs impact positive social behavior and decrease teen pregnancies.
- Data show a link between high-quality early education programs and a reduction in criminal activity.
- Research studies support the connection between high-quality early education and increased adult employment and income.
- Multiple cost-benefit analyses conclude that high-quality early education programs not only achieve important learning outcomes, but are sound public investments.

Conclusion

Multiple research studies support the importance of high-quality early education for all children. Data clearly indicate that well-designed programs that are implemented with fidelity provide long-term benefits. Evidence shows that high-quality, robust early learning experiences not only enhance children's growth and development, but also benefit society as a whole. Multiple cost-benefit analyses support the economic advantages of early education, finding that for each dollar spent on quality early education,

society receives approximately a \$7 return on its investment. Investing in quality pre-K education has the potential to improve long-term outcomes for children and the citizenry of the United States.

Corinne Eisenhart

See also Abecedarian Project; Child-Parent Centers; Crime, Early Childhood Education and; Curriculum and Early Childhood Education; Economic Status and Geographic Influences on Development and Learning; HighScope Perry Preschool Study

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HighSCOPE

HighScope is the name of the educational research foundation that developed and disseminates the HighScope Curriculum for use in programs for children and conducts studies of the effects of such programs. This entry describes its mission,

vision, programs, and studies. It describes the preschool, infant–toddler, elementary, and youth versions of the HighScope Curriculum, HighScope’s professional development model, the evidence for the validity of the curriculum model, and HighScope’s program implementation and child development assessment tools. It describes HighScope’s research studies on other early childhood programs and settings. HighScope is remarkably well-known; a Google search of “High/Scope” (the slash was dropped in 2009) in March 2014 found 95.8 million results.

HighScope Educational Research Foundation

HighScope Educational Research Foundation is an independent, nonprofit early childhood educational research and development organization founded in Ypsilanti, Michigan, in 1970 by David P. Weikart and his associates. They coined the term *HighScope* to signify the organization’s high aspirations and broad scope of interest. To carry out its mission of lifting lives through education, HighScope Foundation develops curriculum models and assessment tools, provides professional development opportunities to learn these models and tools, conducts research on their validity and the validity of other early childhood settings in contributing to children’s development, publishes books and materials, and communicates with its various audiences. Its vision is a world in which all educational settings use active, participatory learning so everyone has a chance to succeed in life and contribute to society. Its primary focus is programs and settings serving children from birth to age 8.

The HighScope Curriculum

The HighScope Curriculum is a system for adults to support children’s active learning and development. Weikart and his colleagues first developed the HighScope Curriculum for use in the Perry Preschool program and first published it for general use in 1971. HighScope Foundation staff regularly update the curriculum and apply it to new domains. The central feature of the curriculum is

respect for the thinking of children and their capacity to initiate and carry out their own learning activities. HighScope has developed and spread its educational model for young children in preschool programs, infants and toddlers in home visit programs and child care settings, children in elementary schools, and teenagers in summer camps and after-school programs. Studies by HighScope and others have confirmed the short-term and long-term effectiveness of these applications.

Preschool Curriculum

The HighScope Preschool Curriculum is a system for supporting the active learning and development of young children 3 to 5 years old. It was originally developed by staff of the Perry Preschool program, drawing on the latest child development theory and research of the time. The curriculum starts with a strong commitment to young children as thinking, responsible human beings and focuses on active participatory learning. Adults ask children what they want to do and help them develop essential knowledge and skills based on the children's own interests. Adults provide open-ended materials and interact with children to support their exploration and extend their learning. Adults arrange the classroom into activity areas to support various kinds of learning in all content areas. They establish a daily routine that allows children to plan and review their own learning activities. They focus on key indicators of all aspects of children's development—approaches to learning; language, literacy, and communication; social and emotional development; physical development, health, and well-being; mathematics; science and technology; social studies; and the arts. Teachers work with parents to apply curriculum principles and practices with children at home as well as in the classroom. In all sorts of early childhood programs and settings, teachers or observers assess program quality with HighScope's Program Quality Assessment and assess children's development using the Child Observation Record.

While retaining its basic educational orientation and practices, HighScope continually updates its curriculum and training materials to incorporate

the latest research on early development and effective education. Reflecting these updates, in 2012 HighScope released the third edition of its preschool curriculum manual, titled *The HighScope Preschool Curriculum*. A condensed version, *Essentials of Active Learning in Preschool*, is also available. *HighScope Step by Step: Lesson Plans for the First 30 Days* was designed especially for new users.

HighScope's curriculum and research have led to the development of a variety of assessment tools for programs and children's development. The Program Quality Assessment's various versions assess the quality of infant-toddler, preschool, family child care, and youth programs. The Ready School Assessment measures how ready elementary schools are for the children they serve.

The Child Observation Record, now called COR Advantage, assesses the developmentally significant behavior of infants, toddlers, and preschoolers. Originally designed for use with children in HighScope programs, it is now available for use with children in any early childhood program. While it is available in various formats, its principal format is online at HighScope.net. The Early Literacy Skills Assessment (ELSA) measures young children's literacy skills with questions in a storybook.

The HighScope Perry Preschool Study is the longitudinal study of the effects of a preschool program that used the HighScope Curriculum with 3- and 4-year-olds living in poverty. The program operated from 1962 through 1967 in the attendance area of the Perry Elementary School in Ypsilanti, Michigan. In this study, 123 children living in this area were nearly randomly assigned either to a program group that attended the preschool program or to a control group that attended no preschool program. The program maintained high quality, with systematic use of the HighScope system, certified teachers each serving five or six children, and weekly home visits. Data have been collected on these study participants annually from ages 3 through 11 and at 14, 15, 19, 27, and 40, with another round of data collection planned when the participants are in their 50s. Missing data have been minimal, with only 6% of data

missing across the many measures. The study found that program participants, compared to the control group, were more ready for school, later achieved greater school success, committed only half as many crimes, and attained greater adult economic success, thereby providing a substantial public economic return. These findings have been presented to many audiences, and advocacy for such programs grew. Funding for the national Head Start program has continued to grow, and most states have initiated their own state preschool programs.

HighScope conducted a longitudinal study to compare the HighScope Preschool Curriculum to the theme-based nursery school approach that was common at that time and the fast-paced direct instruction model. Sixty-eight children living in poverty were nearly randomly assigned to classrooms for 3- and 4-year-olds implementing these three models to high standards of quality. All three groups experienced average intellectual growth of 27 IQ points in their programs' first year. But in the longer term, the direct instruction group fared worse than the others: Only 6% of the HighScope and nursery school groups needed treatment for emotional impairment or disturbance during their schooling, as compared to 47% of the direct instruction group; and only 10% of the HighScope group was arrested for a felony by age 23, as compared to 39% of the direct instruction group. These findings suggest it is not enough for a preschool program to improve children's short-term cognitive and literacy skills if it does not also improve their long-term social development.

HighScope has developed specialized early childhood curriculum models for literacy, mathematics, music, and conflict resolution. The Growing Readers curriculum applies HighScope curriculum principles to young children's development of literacy. Through questions in a storybook, the ELSA assesses young children's development of four skills needed for literacy—comprehension, phonological awareness, the alphabetic principle, and concepts about print. The Numbers Plus preschool mathematics curriculum, developed and studied with grants from the U.S. Department of Education, integrates HighScope curriculum

principles with the recommendations of the National Council of Teachers of Mathematics. HighScope has also developed curriculum applications to social relations focusing on conflict resolution.

Infant-Toddler Curriculum

HighScope has developed curriculum materials for parents and caregivers of infants and toddlers on forming loving, trusting relationships with the babies and toddlers in their care. As with older children, the approach focuses on children learning through direct, hands-on experiences with people, objects, events, and ideas. Adults encourage infants and toddlers to discover their world by exploring and playing. The curriculum offers proven teaching practices that support children's development, content areas for infants and toddlers, program and child development assessment tools, and a training model that helps children implement the curriculum effectively. The book *Tender Care and Early Learning* presents HighScope's infant-toddler curriculum.

HighScope's current work at the infant-toddler level focuses on parents whose children are enrolled in early childhood programs and on caregivers in child care programs. To work directly with parents, it recommends that teachers in early childhood programs provide home visits and regular parent meetings. HighScope trains program staff and publishes materials to help them conduct meaningful and effective activities for parents. Second, HighScope provides curriculum materials and professional development services to those who take care of very young children in home- and center-based programs.

HighScope began its infant-toddler work in 1970 with its Infant Education Project. This program had professional staff providing home visits to young mothers and achieved some modest results. In the 1980s, with funding from the Bernard Van Leer Foundation, HighScope implemented the Parent-to-Parent Dissemination Project in diverse communities throughout the country. In this model, parents were trained and operated under the supervision of a professional to share

child development and parenting information with their peers in the community. The project led to the development of guidelines for establishing community-based family support programs.

Early Elementary and Youth Initiatives

HighScope's early elementary work today focuses on ready schools. It has developed and validated the Ready School Assessment (RSA) to serve as the basis of a school's improvement plan to become a ready school. The RSA is based on the research-based definition of a ready school developed in 1998 by a group commissioned by the National Education Goals Panel. It looks at how ready schools smooth the transition between home and school and strive for continuity between early care and education programs and elementary schools. It also looks at how ready schools do what all good schools do, such as being committed to the success of every child and teacher. The field test of the RSA involved 71 elementary schools in 17 states.

HighScope's Education Through Movement program is well developed and widely disseminated at the early elementary level. Its movement-based active learning process involves key developmental indicators in movement and music, the movement core, the teaching model, and active learning support strategies.

HighScope's early elementary roots are in the federal Project Follow Through, which ran from 1968 to 1995. In this project, HighScope applied its curriculum principles to the early elementary grades and helped selected school districts serving low-income children across the country use the approach. Its Follow Through research showed that the HighScope early elementary model improves school achievement. After Project Follow Through, the Bureau of Indian Affairs supported HighScope in elementary schools on reservations from 1996 to 2000. Several other elementary schools around the United States and in Mexico, the Netherlands, and Indonesia have continued to use the HighScope early elementary approach.

HighScope has developed and validated the Youth Program Quality Assessment (PQA) to

evaluate the quality of youth programs and identify staff training needs. Community organizations, schools, camps, and other youth-serving places use it. In a joint venture with the Forum for Youth Investment, HighScope formed the David P. Weikart Center for Youth Program Quality to disseminate the Youth PQA widely.

Professional Development

HighScope's professional development programs build on the idea that active learning is as important for adults as it is for children. Teachers learn through a combination of hands-on exercises, reading, discussion, reflection, and guided practice in their own program settings.

Today, HighScope offers a variety of training options tailored to the needs of teachers and caregivers serving infants, toddlers, and preschoolers in all types of settings. HighScope offers 1- and 2-day workshops that provide introductory, entry-level information or review a specific component of the HighScope curriculum. Week-long courses go deeper into how to implement various curriculum components. Multiple-week courses lead to HighScope trainer or teacher certification and the best practices early childhood staff need to run a high-quality program. HighScope offers online courses in which participants can engage from anywhere, at any time in the discussions of an e-learning community and get individual attention from the course instructor. HighScope staff and trainers participate in and make presentations at various early childhood conferences.

HighScope training is taking place throughout the world. Its training-of-trainers programs give early childhood program organizations anywhere the independent capacity to provide HighScope teacher training. These programs have enabled the establishment of teacher education institutes and centers in Canada, Chile, China, Great Britain, Indonesia, Ireland, South Korea, Mexico, the Netherlands, Portugal, and South Africa. HighScope has also provided training in Dubai, Saudi Arabia, the Caribbean, and elsewhere.

HighScope teacher training, which began in the 1960s, flourished in the 1980s with training-of-trainers

programs. In this model, HighScope builds local capacity by training agency-based supervisors in both curriculum and techniques for preparing teachers to implement the curriculum with the young children in their programs. Ford Foundation funding primed the pump for this national effort. At its high point, 1,075 trainers were training the teachers in 13,000 early childhood classrooms a year, half of them of demonstration quality.

The HighScope Training for Quality Study found a variety of evidence of the effectiveness of the current HighScope preschool education model. This study surveyed 203 certified HighScope teacher trainers, surveyed and systematically observed the classrooms of 244 HighScope and 122 comparison teachers in diverse early childhood settings serving diverse populations, and systematically observed and tested 97 HighScope and 103 comparison children in these classrooms. HighScope classrooms significantly surpassed comparison classrooms in classroom environment, daily routine, adult-child interaction, and overall quality of implementation. HighScope programs experienced significantly better supervisory and teaching practices than non-HighScope settings. Independent observers rated the HighScope classrooms as higher on the following dimensions: overall program quality, organizing and labeling the room to promote children's independence, providing diverse materials that were easily accessible to children, encouraging children to plan activities based on their interests, encouraging children to review and reflect on their actions and experiences, and using observations and open-ended questions to extend children's play. Further, children in HighScope programs outscored their non-HighScope peers in initiative, social relations, cognitive development, motor development, and overall development.

Other HighScope Studies

HighScope Foundation has partnered with the federal Head Start in various ways over the years. In the 1970s it led or participated in several studies of Head Start demonstration programs—Home Start and the Developmental Continuity

Project among them. Home Start involved the delivery of Head Start services in participating families' homes. The Developmental Continuity Project brought Head Start programs together with elementary schools. From 1995 to 2004, HighScope was home to one of several Head Start Quality Research Centers. In the first 5 years, the center sought to define and assess quality in Head Start programs; in the second 5 years, it studied the effectiveness of intensive training of Head Start teaching staff in the use of the HighScope Curriculum.

Since 1995, HighScope Foundation has led a longitudinal study of Michigan's Great Start Readiness Program. The study compares 338 children who attended this program as 4-year-olds in 1995–1996 to 258 of their classmates who did not attend, in six selected sites across the state. All of the children came from families whose income was low enough to qualify for program enrollment. Despite the groups being similar on most background characteristics, the group that attended the program was better prepared for school and had higher test scores at fourth grade. A smaller percentage had to repeat a grade, and a larger percentage graduated from high school on time, with the difference more pronounced among children of color.

The IEA Preprimary Project is an unprecedented examination of early care and education programs in 17 countries, coordinated by the HighScope Educational Research Foundation under the auspices of the International Association for the Evaluation of Educational Achievement (IEA). The project has produced a series of reports on parent beliefs, characteristics of early childhood settings, and how these characteristics relate to children's cognitive and language performance at ages 4 and 7. The study found that the world over, mothers spend 8 to 12 hours a day with their 4-year-olds, while fathers spend less than 1 hour. In almost all types of group settings around the world, adults interacting with children use adult-centered teaching strategies more often than child-centered strategies. Yet children in settings in which free, child-initiated activities predominate have significantly better language performance at age 7 than

children from settings in which adult-planned personal and social activities predominate.

HighScope brings and has brought an evaluation mentality to its program planning and development with many program partners, such as the Michigan Department of Education, South Carolina First Steps, United Way for Southeastern Michigan, and Oakland-Livingston Human Services Agency. It has established its Center for Early Education Evaluation to pursue this commitment.

HighScope's enduring commitment is to support programs that ask young people what they want to do and help them develop through their own work and play. Its work is grounded in this vision of human beings as active participants in their own learning and life experiences.

Lawrence J. Schweinhart

See also Child Observation Record; Child-Initiated Learning; Curriculum and Early Childhood Education; Developmentally Appropriate Practice; HighScope Perry Preschool Study

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Websites

HighScope: <http://www.highscope.org>

HIGHSCOPE PERRY PRESCHOOL STUDY

The HighScope Perry Preschool Study is the longitudinal experiment conducted by HighScope Educational Research Foundation that identifies the effects of the preschool program run at the Perry Elementary School in the Ypsilanti, Michigan, public schools from 1962 through 1967. The study focuses on 123 African American children born in poverty and at risk of school failure, 58 of whom were assigned to the preschool program. This entry first discusses the Perry Preschool program, the design of the study on its effects, and the study's findings. It then discusses what implications may be drawn from the study about the necessary ingredients for preschool to be successful.

The preschool program provided 3- and 4-year-old children a child development curriculum in

half-day classes and weekly home visits. Compared to non-attendeers, those attending the program had significantly better intellectual and language performance from the end of the first program year through first grade. They had higher achievement test scores during their schooling, particularly at age 14, and a stronger commitment to school. Fewer preschool graduates were identified as educable mentally impaired. Fewer preschool girls repeated a grade, and more of them graduated from high school. As adults, preschool graduates had a higher employment rate and better-paying jobs and were arrested for half as many crimes. The return on investment in this program was at least seven times as great as the investment itself. Several other studies have since found long-term effects and return on investment, fueling a strong advocacy movement and increasing funding for high-quality early childhood programs throughout the world.

Context

Prior to the 1960s, early childhood education was synonymous with nursery school and kindergarten, largely for middle-class children. With the Economic Opportunity Act of 1964 came Head Start, the federally funded preschool program for children of low-income families. The intellectual rationale for this inclusion of a preschool program came from J. McVicker Hunt's introduction of Jean Piaget to the United States and Benjamin Bloom's analysis of the early variability and later stability of children's performance on IQ tests. It also came from the first scientifically studied preschool programs for poor children, by Martin Deutsch in New York, Susan Gray in Tennessee, and David Weikart in Michigan.

In those years, Weikart was special education director of the Ypsilanti public schools. Frustrated at the rampant failure of poor children in the schools without an effective school district response, he joined with Charles Eugene Beatty, Sr., principal of the Perry Elementary School, whose students were African American, to establish the Perry Preschool program. Because some doubted that such a program was suitable for young children, it was evaluated using an experimental design.

Design

The researchers identified study participants at risk of school failure from low-income families living near Perry Elementary School in Ypsilanti, Michigan. Parents' schooling, occupational status, and household density determined families' socioeconomic status. The Stanford-Binet Intelligence Scale measured children's intellectual performance at study entry. The 123 participants in the longitudinal study entered the study in five successive classes at age 3 annually from the fall of 1962 to the fall of 1965 (the oldest class entered at age 4 in the fall of 1962).

These children were assigned to the preschool program group or to the no-program group (who did not attend any preschool program) by objective assignment procedures involving randomization. In each of the five classes, children were ranked into pairs of similar intellectual performance at study entry and randomly assigned to two groups. Some pair members were swapped to equate groups' mean intellectual performance, socioeconomic status, and gender ratios. In younger classes, younger siblings were swapped within pairs to be in the same groups as their older siblings. The children of mothers who were employed and could not participate in home visits were reassigned to the no-program group and pair members swapped into the program group. These procedures resulted in two groups not significantly different on initial intellectual performance; father's presence, schooling, or employment status; or mother's schooling. Because of the switches of children of employed mothers into the no-program group, the program group had significantly more employed mothers than the no-program group (9% vs. 31%). Fortunately for the design, maternal employment at study entry was not correlated more than .13 with any of the major outcome variables.

Program teachers conducted daily 2½-hour classes for children on weekday mornings and made weekly 1½-hour home visits to each mother and child on weekday afternoons, from October through May. Of the 58 children in the program group, the 13 in the first class were in the program for one school year at age 4 and the 45 in subsequent classes

were in the program for two school years at ages 3 and 4. Program staff developed a curriculum model based on the idea that both teachers and children should have a major role in defining and initiating children's learning activities. Now called the HighScope Curriculum, this model is an open framework of educational ideas and practices based on children's development. Adults arrange interest areas in the learning environment; maintain a daily routine in which children plan, carry out, and review their own activities; and join in children's activities, asking appropriate questions that extend their plans and help them think about their activities. They introduce new ideas to children through adult-initiated group activities. They observe, support, and extend the children's play. Using key experiences based on child development theory, they encourage children to engage in activities that contribute to their development.

This study has amassed an unusually rich and comprehensive data set on young African Americans growing up in poverty, with variables representing their status from birth through childhood and adolescence to early adulthood and midlife. The many variables encompass demographic characteristics, test performance throughout childhood and adolescence, school success, crime, socioeconomic success, health, family, and personality development. The planned age 50 study will build on the age 40 study, expanding coverage of health and personality. Attrition in the study sample has been very low and had a negligible effect on analyses of outcomes. Across the 48 measures of 123 cases, a median 7 cases (5.7%) were missing.

The findings presented here are based on comparisons of the program group and no-program group with statistical adjustments to compensate for the effects of participants' gender, Stanford-Binet IQ at study entry, mother's schooling, father's presence and employment status, household rooms per person, and mother's employment status. Reported group differences in outcomes are statistically significant, with a one-tailed probability of chance occurrence of less than .05, using one-tailed probabilities because the study's hypotheses are clearly directional.

Findings

The program group outperformed the no-program group on various intellectual and language tests from their preschool years up to age 7; school achievement tests at 7 to 14; and literacy tests at 19 and 27. The program group had better attitudes toward school than the no-program group as teens. Fewer in the program group were treated for educable mental impairment, and fewer program females repeated a grade. Consequently, more program than no-program females graduated from high school or received a GED, a remarkable 42 percentage-point difference favoring program females.

At 27 and 40, more of the program group than the no-program group were employed and owned their own homes and cars, and the program group had higher median earnings than the no-program group. At 27, fewer of the program group than the no-program group reported receiving social services in the previous 10 years. During their lives, the program group was arrested for half as many crimes as the no-program group; fewer in the program group were arrested five or more times or were ever arrested for violent, property, or drug crimes. Fewer in the program group were sentenced to time in prison or jail.

A causal model suggests the following path from preschool program to reduced crime. Family socioeconomic status impaired study participants' early childhood intellectual performance, but preschool experience improved it, strengthening their elementary school motivation, which reduced the time they were treated for mental impairment. Their improved early childhood intellectual performance and reduced time in treatment for mental impairment improved their literacy when they left high school. Their greater school motivation led them to complete more school. Because they had more school, they had higher adult earnings and committed fewer crimes.

In constant 2014 dollars discounted at 3% (as is standard in multiyear studies), the return to society was \$324,341 per participant on an investment of \$20,093 per participant (\$11,315 per participant per year)—\$16.14 per dollar invested. Of

that return, 76% went to the general public and 24% went to each participant. Eighty-eight percent of the public return came from crime savings, with the rest coming from school and welfare savings and increased taxes due to higher earnings. Almost all of the public return—93%—came from the program effect of reducing crime rates of program males. Over their lifetimes, each male program participant cost the public \$980,431 less in undiscounted 2014 dollars—nearly a million dollars per person.

James Heckman and his colleagues recently reanalyzed the group differences, costs and benefits, and mediators found in the data of this study. While some specific findings differed, the general findings confirmed the study's initial analyses. The group differences reanalysis used innovative statistical procedures to correct for the study's small sample size, departures from random assignment, and multiple hypothesis testing. The cost-benefit reanalysis examined dozens of assumptions and produced hundreds of estimates of return on investment, centering on a benefit-cost ratio of 7.1 to 1, similar to the previous estimate through age 27. The mediator reanalysis, of males and females separately, confirmed the path from preschool to improved intellectual performance to improved school achievement, extending it to reduced use of welfare assistance by females. It found that preschool decreased males' misconduct, thereby reducing their crime as adults and improved females' social relationships and reduced their misconduct, which improved their adult lives in many ways.

Discussion

In the late 1970s, principal investigators of a dozen studies including the Perry study banded together to form the Consortium for Longitudinal Studies. Collaborating in data collection and analysis, the Consortium found robust evidence of preschool program effects on children's intellectual performance at school entry and reduced need for placements in special education and retention in grade. Since then, several other longitudinal studies of early childhood program effects

have joined the Perry study in finding long-term effects and return on investment—the Abecedarian Project, the Chicago Child-Parent Centers Study, and the studies of the Nurse-Family Partnership.

Several more recent studies of state and local preschool programs have found promising short-term effects. But the findings through third grade of the Head Start Impact Study were disappointing. From this body of evidence it can be concluded that model preschool programs and some local and state programs have the program ingredients needed to be highly effective, while the federal Head Start program as a whole does not have these program ingredients to the extent needed to be highly effective. These program ingredients have been identified as fully qualified or well-supervised teachers using a proven curriculum model, engaging parents as partners, and regularly assessing program implementation and children's development. The challenge is to provide such programs to all children in need so they get a fair chance to achieve their potential.

Lawrence J. Schweinhart

See also Abecedarian Project; Child-Parent Centers; Head Start; HighScope; Home Visitation With Mothers and Infants and Children; Measuring Effectiveness; Program Evaluation

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HIGH-STAKES STANDARDS-BASED ACCOUNTABILITY REFORM

High-stakes standards-based accountability reforms are a set of educational policies that define the knowledge and skills children are to acquire (content standards) and the level of proficiency they are to attain on specific standardized measures of academic achievement (performance standards). The high stakes associated with these policies refer to the consequences that are enacted upon children, teachers, schools, school districts, and/or state education systems due to the children and/or a child failing to attain the performance standard. The stakes can range from denying grade promotion to the student, affecting teachers' and/or administrators' salaries and/or tenure, sanctioning or even closing schools or regional education systems, or potentially humiliating education stakeholders by making school-wide or system-wide test results available to the public. Additionally, many states require early educators working in public school settings to be certified by the state, which can necessitate that they attain a particular level of performance on a specified standardized teaching exam—meaning the stake is not being certified by the state.

Many policy makers believe that by defining what children and/or teachers are to know, how

well they are to know it, and tying consequences to these performance expectations they will motivate stakeholders within the education system to work more effectively to ensure all children and/or teachers learn the content standards needed to score well on the mandated exams. This entry first examines the presence of high-stakes standards-based accountability reforms in publicly funded early childhood education (ECE) programs, and then discusses the manifestation of similar high stakes in private ECE programs. It concludes by offering suggestions for best practices in using high stakes as a part of ECE reform.

High-Stakes Standards-Based Accountability Reform in Publicly Funded ECE

High-stakes standards-based accountability reforms emerged in ECE as a result of policy makers implementing these types of policies in elementary and secondary education systems. While high-stakes decisions for students typically do not occur until they are at least age 8, these elementary and secondary policies have been translated into a similar set of reforms for publicly funded early education settings serving children ages 0 to 5. For instance, policy makers have called for the establishment of early learning standards. These content standards, which are typically aligned with the content standards found in elementary school, dictate for ECE teachers and their programs the skills, knowledge, and dispositions children should possess by the time they leave their programs.

These reforms have also led to the implementation of mandated assessment measures for particular early education programs. In some ECE contexts, preschool/prekindergarten children's literacy, mathematics, and/or social skills are tested on a regular basis. There has also been a rise in the use of kindergarten readiness tests given to children as they enter elementary school. Education policy makers and stakeholders can use these assessments in three ways. First, for the children, these test scores might be employed to establish a baseline of what children know and can do and whether they are on trajectory for success on the

high-stakes exams that await them in elementary school. Second, national, regional, or local policy makers may use students' scores to reward, endorse, or sanction the ECE program they attended. Lastly, in some ECE contexts, children's scores may be made available to the public.

The implementation of these high-stakes standards-based accountability reforms in ECE has been tenuous for many within the field. These reforms center on establishing an aligned system of ECE that dictates what children are to know and do at particular points in their schooling, and if they fail to meet those markers, consequences occur. As such, academic achievement within high-stakes standards-based accountability reform in the early childhood years does not necessarily reflect what children have learned or how they have developed since entering a particular early education program. Rather, achieving the defined performance standard simply means that children possess the skills and knowledge policy makers have prioritized in their reforms through their assessment measures. It is unclear whether children learned these skills in their ECE program.

This conception of academic achievement found within high-stakes accountability systems varies from the focus within the field of ECE on helping individual children develop and learn through practices that are in tune with their individual, developmental, and sociocultural needs. Furthermore, for ECE practitioners and their programs, academic achievement is conceptualized as one of the many bands that make up the spectrum of children's development and learning. Thus, evaluating children's cognitive, social, emotional, and physical development and learning is tied to both formative (monitoring student learning) and summative (evaluating student learning) assessments that educators use to monitor their instruction so that they can provide their students with learning experiences that develop the children's individual skills and knowledge in relation to the needs of children and their families, as well as empirically based norms of child development.

Lastly, this shift for the field of publicly funded ECE from one that pivots its instructional decision

making off the individual needs of children within a specific program toward a high-stakes standardized system of early learning that focuses on all children attaining the same level of academic achievement at a particular point in their schooling has been shown to limit the instructional practices of teachers, redefine the purpose of such ECE programs as pre-K, and deemphasize the development of positive interactions between early educators, their programs, and the children and the families they serve.

High Stakes in Private ECE Programs

While private school settings typically do not fall under the purview of most educational reforms, these programs do enact high-stakes decisions upon children and their families through denying them acceptance to a particular type of program (e.g., preschool, kindergarten, or elementary school) or having children repeat an academic year based on a particular assessment measure or application process. Grade-level retention, while not empirically justified, is used both in private and public ECE programs. Nevertheless, denying admission to a program and/or retaining a child based on any type of criteria is a form of high-stakes consequences for the children and families these programs are designed to serve.

Best Practices for High-Stakes Standards-Based Accountability Reform in ECE

While high-stakes standards-based accountability reforms are controversial and their impact on children's learning and development is at best mixed, they remain a part of the field of ECE across the globe. Thus, this entry ends with a brief examination of best practices for high-stakes decisions so that early education stakeholders not only understand how to evaluate the appropriateness of these reforms but can also advocate for policies that support the learning and development of children.

To begin, both research-oriented (e.g., American Educational Research Association) and practitioner-based organizations (e.g., National Association for the Education of Young Children) hold the

position that no high-stakes decisions for children using a single test score should be used until after age 8. Other issues policy makers and early childhood stakeholders should consider when using assessments to make high-stakes or any decision about students and/or educational stakeholders' careers include: what does the test measure (e.g., the content standards), and does this measurement align with the intent of the policy; is the test reliable, meaning does it produce stable and reproducible results; is the test valid, meaning does it measure what it states it measures; and lastly, is the test fair, meaning does it underestimate or overestimate the skills or knowledge of particular linguistic/cultural/socioeconomic groups and can it be used to compare different linguistic/cultural/socioeconomic groups? Ideally, any assessment used in an ECE program should be beneficial for children, be appropriately aligned with their developmental and experiential needs, provide useful information to educators so that they can plan for instruction, offer families insight into children's growth and development, and/or possibly, depending on the assessment, identify children with special needs.

Christopher P. Brown

See also Academics and Academic Assessment in Early Education; Assessment, Limitations of; Grade Retention; State Policy Making

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HISTORY OF EARLY CHILDHOOD EDUCATION IN THE UNITED STATES

The origins of the early childhood program movement in the United States can be traced to the religious, philosophical, political, and industrial revolutions that transformed Europe in the 17th and 18th centuries. Some of the influential theorists who have contributed to the field of early childhood include Johann Amos Comenius (1592–1670), a Moravian bishop; John Locke (1632–1704), an English philosopher and physician; Jean-Jacques Rousseau (1712–1778), a German philosopher, writer, and composer; Johann Heinrich Pestalozzi (1746–1827), a Swiss pedagogue and educational reformer; Robert Owen (1771–1858), a Welsh social reformer; Friedrich Wilhelm August Froebel (1782–1852), a German pedagogue and a student of Pestalozzi; John Dewey (1859–1952), an American philosopher, psychologist, and educational reformer; Maria Tecla Artemesia Montessori (1870–1952), an Italian physician and educator; Lev Vygotsky (1896–1934), a Soviet Belarusian psychologist; Jean Piaget (1896–1980), a Swiss developmental psychologist and philosopher; Erik Homburger Erikson (1902–1994), a German-born American developmental psychologist and psychoanalyst; Abraham Harold Maslow (1908–1970), an American psychologist; and Urie Bronfenbrenner (1917–2005), an American developmental psychologist who was born in the Soviet Union.

As a stage in the education and socialization of a child, early childhood typically refers to a child's experiences prior to entering the primary grades at age 6. Early childhood programs and education are complex and varied, with each having a distinct history of its own. This entry discusses the development of nursery, prekindergarten, and kindergarten programs in the United States.

Day Nursery and Nursery School

Day Nursery

Between 1815 and 1860, the United States experienced a flood of immigration with over 5 million new families settling into mostly urban areas. The industrialization and urbanization of the country led women to enter factories. Young children were left to their own devices, wandering in the streets unattended or locked in their homes. Well-meaning, wealthy philanthropic women created service organizations to address what they identified as neglect, vice, and lack of sanitation, by organizing day nurseries to care for the young children of working-class women.

The day nursery in the United States began in Boston in 1828 with the opening of the Boston Infant School, which enrolled children between the ages of 18 months and 4 years of age. The Boston Infant School was modeled after infant schools in Scotland developed by Owen. Those infant schools were established for children 2 to 6 years of age whose mothers worked in factories. In 1854, the Nurses and Children's Hospital in New York City opened to offer child care for infants and toddlers of working women who were patients in the hospital. In 1863 in Philadelphia, a day nursery was opened to care for the children of women working in hospitals and factories during the Civil War. A model day nursery was featured in the 1893 Chicago World Fair, offering care for 10,000 children of visitors to the fair. By 1898, there were enough day nurseries opened throughout the nation to support the creation of a National Federation of Day Nurseries.

Expansion of day nurseries continued in the 20th century, with services being offered in converted homes. These day nurseries were open six days a week, 12 hours a day. They were often oversubscribed and understaffed, with care being provided by matronly women and an assistant, who cared for the children, did laundry, cooking, and cleaning. These places were a last resort for mothers of children who had to work and had nowhere else to send their children.

Many of the day nursery children were the children of immigrants, so emphasis was placed on

teaching children manners and hygiene in the "American way." The virtues of punctuality, obedience, industry, and cleanliness were promoted by training the children to use a napkin, eat in silence, march in a straight line, and giving them tokens for "good" behavior to redeem for articles of clothing. By 1900, kindergarten ideas began to filter into a few day nurseries. Some of the adults in these nurseries attempted to create a curriculum for the children.

Underlying the creation of day nurseries was a deficit model. Mothers were perceived as falling short of the middle-class ideal parent. Very often, they were identified as needing help and their children were accepted into the programs on this basis. Better-funded and organized day nurseries offered working mothers services beyond child care such as classes in sewing, cooking, learning to speak English, job training, and assistance with practical family problems.

In 1933, with approximately 13 million families devastated by the Great Depression, President Franklin D. Roosevelt initiated the Federal Economic Recovery Act and the Works Progress Administration (WPA). Public funds for expansion of child care became available for the first time in history. Ideally, this project aimed to offer jobs to unemployed teachers, nurses, cooks, and janitors. By 1937, over 1,900 day nurseries caring for 40,000 children were in operation throughout the country, mostly housed in schools and following school hours.

The WPA was terminated in 1938, and without funding, day nurseries floundered until World War II. Women were mobilized into war-related work and funds provided under the Lanham Act of 1940 were used beginning in 1943 to support child care for women working in the defense industry. By 1945, over 1.5 million children were enrolled in day nurseries, with more innovation going into the provision of care. The Kaiser Shipbuilding Corporation opened two Child Service Centers where the children of women working in the shipyard were offered a creative program and the mothers were offered shopping and mending services, doctor's appointment services, care for ill children, and take-away dinners at a low cost.

The end of World War II meant that the Lanhams funds, which had been appropriated for the development of day nurseries, were cut in 1946, closing nearly 3,000 nurseries across the nation. From 1950 to 1965, day nurseries were marginalized services, providing facilities for poor families and children with an emphasis on social work and families facing difficulties. In the mid-1960s attitudes toward day nurseries began to shift as more mothers were working outside the home and the federal government supported day care, but mostly for poor families. It was at this time that day nurseries and nursery schools began to merge.

This merger was heralded in January 1964 when President Lyndon B. Johnson declared a “war on poverty” in his State of the Union speech. A comprehensive nursery program called Project Head Start was designed to help break the cycle of poverty, providing preschool children of low-income and rural families with a program to meet their emotional, social, health, nutritional, and psychological needs. In the summers of 1965 and 1966, the Office of Economic Opportunity launched an 8-week Project Head Start.

Nursery School

While day nurseries were designed to provide care for children of poor families, the nursery school was created to provide enrichment for children of affluent families in the United States. The nursery school was intended for children younger than kindergarten age (i.e., 2-, 3- and 4-year-old children). Following World War I, children became a focus in American society, leading to a central concern for the young child’s social, physical, and emotional development. Nursery school educators experimented with pedagogical methods, rather than adhering to one philosophy like many of the Froebelian kindergarten advocates.

The first cooperative nursery school in the United States was created by the wives of faculty at the University of Chicago in 1915 to give them time for Red Cross work while simultaneously providing social education for their children and parent education for themselves. Parent participation and parent fees supported the programs. In 1927, the

Children’s Community Center was organized in Berkeley, California, and is today the oldest continually operating cooperative preschool.

In England, Margaret McMillan (1860–1931), a Christian Socialist, believed young children flourished with the Froebelian emphasis on play and self-activity. McMillan is regarded as the originator of the nursery school concept. Together with her sister Rachel, McMillan began an open-air nursery school in a deprived part of London in 1914. Abigail Eliot (1892–1992), the founder of America’s first nursery school, studied with the McMillan sisters in Deptford, England, in 1921 for 6 months in order to understand the theory and practice of the open-air nursery. She returned to Boston in January 1922 to open the Ruggles Street Day Nursery.

Historically, most U.S. nursery schools were privately funded and often sponsored by and affiliated with universities. They were characterized by their use of child study and psychological theories about children and their families, such as those of Piaget (1896–1980). Unlike those in the United Kingdom that provided services for working-class families, they catered mainly to upper- and middle-class children whose mothers were not undertaking paid labor.

The inclusion of nursery schools in the public education system in the United States was limited by the cost of organizing and running such programs. Further, there was a prevailing view throughout the 20th century that the ideal setting for a young child was at home with the mother. The only exceptions to this were made for the children of the urban poor and in times of national emergency such as the Great Depression and World War II.

In recent decades, public and private provision of preschools has increased dramatically in the United States, as the number of women entering the labor market has steadily grown. At the beginning of the 21st century, nursery school was the general trend and provided a play-based, developmentally appropriate curriculum.

Throughout the 20th century in the United States, privately funded nursery schools adopted play methods more widely than publicly funded

nursery schools, but there were too few of them to meet the demand. Public funding of nursery schools, however, enabled more children to attend, but this has almost always led to their subordination to the demands of the schools for older children.

Prekindergarten

Historically, prekindergarten programs in the United States were supported by private and federal funds. Federally supported prekindergarten programs were established to help poor families, unemployed parents, working parents, and disadvantaged children. Federal funds for prekindergarten programs increased in 1964 when the Equal Opportunities Act (EOA) was passed, the War on Poverty began, and Project Head Start was developed.

Although federal funding of prekindergarten programs increased with the EOA, most prekindergarten programs were operated by private agencies. These private prekindergarten programs, established in 1922, were mainly for Caucasian children from high-income families whose mothers were not in the workforce. Private programs provided educational enrichment and socialization for children, not to support working mothers.

Staffing has, historically, been a challenge for public prekindergarten programs. Many teachers in private programs lacked the early childhood training required of public school teachers. The majority of prekindergarten teachers in private programs were considered to be child care providers rather than educators. Despite this, children who attend prekindergarten programs are more likely to have a successful transition into primary grades and better academic attainment than those children who do not attend prekindergarten. With the advent of the Child Development Associate (CDA) credential for paraprofessionals and state licensure that includes prekindergarten, the quality of preparation has been enhanced.

The United States also has begun putting systems into place to improve preparation of pre-school teachers. Support for the professional development of the prekindergarten workforce now includes increasing availability of infant/

toddler coursework and training. This is leading to formally recognizing professional achievement through award of an infant/toddler credential, certificate, certification, or endorsement.

Kindergarten

The kindergarten movement was not designed as a compensatory program to address the needs of children living in poverty. Parents paid for their children to attend private kindergarten education because it was viewed as a “positive good.” Froebelianism began in the United States as a German cultural movement. The first kindergartens were established by women who had studied with Froebel or one of Froebel’s students. The kindergarten was designed to preserve the German language and culture for second-generation German Americans. The first kindergarten in the United States was established by a student of Froebel, Margarethe Meyer Schurz, in 1856 in Watertown, Wisconsin. There are records of nine or 10 other German-speaking kindergartens from the 1850s to the early 1870s in Ohio, Kentucky, New York, Michigan, and Wisconsin.

Elizabeth Peabody and Susan Blow promoted national acceptance of the kindergarten. Peabody opened the first English-speaking kindergarten in the United States in Boston in 1860. The kindergarten classroom differed greatly from the primary school setting, with movable tables and chairs and children encouraged to play and spend time learning outdoors. Materials were arranged for the child to have access to everything in the setting at child scale.

Blow, with the support of William Torrey Harris, began the first public kindergarten in St. Louis, Missouri, during the 1872–1873 school year. Blow had studied kindergarten methods with Maria Kraus-Boelte, a pioneer of Froebel education in the United States. One challenge that Blow and Harris faced was cost—kindergarten cost \$4 more per child than primary grades. To compensate, Blow established two sessions of kindergarten per day—one morning and one afternoon. Children between the ages of 3 and 5 years were enrolled in the St. Louis kindergarten, allowing young children a

transition period between early childhood education and the rigid and formal primary grades education. In 1883, the Missouri Supreme Court upheld complaints about the St. Louis public schools funding kindergarten for children under the age of 6. Schools were forced to change the elementary school entrance age to 5 and charged families of children age 5 a fee to attend kindergarten. Blow withdrew from active kindergarten work in 1884.

In spite of these challenges, the popularization of kindergarten continued. During the 1880s and 1890s, kindergarten was exhibited at fairs and expositions across the nation. Increased awareness in the southern United States was a result of a model kindergarten at the New Orleans Exposition in 1885. The Columbian Exposition in Chicago in 1893, where private, charity, and public kindergartens from around the country were displayed and held conferences, produced an unparalleled interest in the movement.

Tuition for kindergarten was high compared to fees for the day nurseries, resulting in kindergarten programs being geared to children of well-to-do families. However, in 1870, the Boston, Massachusetts, school board opened a tuition-free, experimental kindergarten for children between 4 and 6 years of age. A second, tuition-free public kindergarten opened in Brighton, Massachusetts, in 1873.

By 1880, 400 kindergartens had been established in 30 states. Although advocates of kindergartens were divided on the issue of whether preparation for the academic work of first grade should be stressed or whether an emphasis should be placed on the moral, emotional, physical, and social development of children, kindergartens had become a major force in American education by 1900 when over half of all kindergartens in the United States were housed in public school systems.

By the 1900s, the kindergarten movement had become very progressive. Free kindergartens were popular and kindergarten was seen as a community center for the neighborhood. In 1903, the Committee of Fifteen was established to solve the debate over keeping the Froebelian principles of

kindergarten or changing to scientific principles. The name of the group was soon changed to the Committee of Nineteen because the original 15 members could not come up with a solution.

Blow continued to fight for Froebel's principles while a newcomer, Patty Smith Hill, felt that Froebelian rules were too rigid and should give way to new ideas and principles. Hill felt that a child's interests should correspond with significant educational experiences. She began to develop new songs, toys, and activities for the new American kindergarten. Teaching double sessions became common practice, making it difficult to interact with parents and families as was common practice in the past. By the 1920s, kindergarten programs were firmly entrenched in the public school system, increasingly looking upward toward the primary grades and preparation for formal schooling, rather than focusing on the unfolding development of the young child. Unification between the kindergarten and first-grade programs evolved, leading to the first-grade curriculum moving down into the kindergarten. The age range of the kindergarten was also changed from admission of 3- to 7-year-olds and limited to 4- to 5-year-olds.

The launching of Sputnik by the Russians in 1957 brought forth complaints about the U.S. education system, leading to further pushing down of the first-grade academic skills to the kindergarten curriculum to prepare children for later academic success. In the 1960s, the nation noted the devastating academic failure of children of the uneducated and poor, leading to a movement to close the gap between the students of high and low socioeconomic backgrounds and to build more kindergartens in low socioeconomic areas. Educators felt that a new rationale and methodology in the kindergarten curriculum would close this gap. The nation embraced the ideal that early education was the remedy for American poverty. Research conducted in the 1960s led to results that confirmed kindergarten experiences correlate to academic success in later years.

By the 1980s, enrollment of all 5-year-olds had risen to 96%, and every state had public kindergartens, with mandatory enrollment in 12 states and the District of Columbia. (As of 2014,

kindergarten was mandatory in 15 states and the District of Columbia, according to the Education Commission of the States.) The kindergarten curriculum either focused on total learning and growing or became a watered-down version of first grade. School readiness became an issue with the 1994 passage of the Goals 2000: Educate America Act, leading to some parents keeping their children from entering kindergarten until they reached 6 years of age, rather than enrolling them at the expected age of 5 years old, to ensure their future academic success as some of the oldest children in the class.

Early childhood education and programs have a complex and rich history in the United States. Debates continue that ensued over 100 years ago—appropriate age for a child to begin kindergarten, whether a child should attend an early childhood education program or stay at home, funding and resourcing for early childhood programs—to name a few. Having a historical perspective of where nursery, prekindergarten, and kindergarten education began, and the theory behind these programs, will allow for informed decisions about the future of programs for young children.

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See also Child Development and Early Childhood Education; Curriculum and Early Childhood Education; Early Childhood Education; Kindergarten; Play and Early Childhood Education; Prekindergarten

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HISTORY OF EARLY CHILDHOOD EDUCATION POLICY

Early care and education (ECE) programs in the United States comprise center-based child care, family child care, preschools, and kindergarten programs. According to the National Institute of Child Health and Human Development, ECE programs differ by quantity and quality. A review of the history of ECE programs and policy in the United States reveals that much of child care was established in the United States as a substitute to maternal care when mothers were not available to care for their children (due to work) or when they were deemed “inadequate” (as in culture of poverty policies for poor families). However, ECE support for families has been and continues to be undervalued and inadequate (in terms of quality and scope).

The 1800s

In the early 1800s, early childhood care policies provided child care support for women who went

to work in the factories. These “day nurseries” proliferated due to the need to keep children out of the streets. The first day nurseries in the United States were designed after French day nurseries, *Crèche*, and they only supervised children and provided basic care.

By the late 1800s and early 1900s, day nurseries provided care that was protective, custodial, and physical in nature. However, only a small percentage of working mothers used these day nurseries. Boston Infant School was established in 1828 and the Nursery for the Children of Poor Women opened in the city of New York in 1852. During the Civil War, women were needed at the factories and at hospitals. Therefore, in 1863 the first permanent day nursery opened in Philadelphia, Pennsylvania, to care for children of Civil War workers. Day nurseries were designed to keep children out of orphanages. Most of the day nurseries around this time were subsidized by charitable organizations. By the end of the 19th century, ECE was primarily custodial—and mainly for poor mothers, immigrants, and minorities in need of charitable care.

The Progressive Era

Toward the latter half of the 19th century, early childhood programs experienced a transformation and an increase in professionalization. The kindergarten, based on the theories and practices of Friedrich Froebel in Germany, came to the United States. Froebel invented kindergarten, and he developed an educational philosophy grounded in four principles: creativity, social participation, free self-expression, and motor expression. He also acknowledged that education begins in infancy and viewed mothers as ideal teachers; thus, his educational programs were run by female teachers. After the German Revolution in 1848, many Germans immigrated to the United States. Among them were female educators trained in Froebel’s kindergarten educational system. These female educators are credited for bringing the kindergarten to the United States. Educationalists such as Caroline L. Frankenberg and Margarethe Schurz opened private and independent kindergartens in the United States, but it was Schurz who established

the first kindergarten program in Wisconsin for German immigrants, in 1836.

Froebel’s educational methods underscored kindergarten curricula during the last half of the 19th century. By 1914, every main city in the United States had public kindergarten programs. Froebel’s theory and educational methods motivated and influenced the work of prominent educators, such as Maria Montessori and Rudolf Steiner. By the early 1900s, Froebel’s educational philosophy was widely accepted in most kindergartens in the United States.

Despite the popularity of Froebel’s philosophy, progressive educators questioned Froebel’s methods due to the rigid implementation of them at the time (which left little room for individual creativity). A leading critic was Patty Smith Hill, one of the main leaders in the kindergarten movement. She challenged the practice of a strict adherence to Froebel’s methods. She studied other leading educators such as John Dewey and Francis Walker. Her work created the foundations for the modern kindergarten programs in the United States. Patty Smith Hill and John Dewey contributed to the field of education by extending kindergarten programs to the West Coast of the United States.

In addition to the kindergarten movement, by the early 1900s, day nurseries became “nursery schools” and shifted from purely babysitting to promoting cognitive and social development in children under the age of kindergarten entry. As kindergarten programs extended throughout the United States, nursery schools built momentum across the country. Many of these ECE programs lacked quality and, according to Sonya Michel, some progressives argued that placing children in programs where they received inattentive and substandard care, while their mothers sought low-wage and physically arduous jobs, was neither an improvement nor a goal for society. Therefore, a counter to ECE programs was a maternal pension that would allow mothers to stay home and care for their children. This gained widespread popularity and by the 1930s most states had some form of a mother’s pension for poor mothers. According to Michel, the mother’s pension achieved greater success than the ECE movement due to the fact that it

supported rather than challenged conventional gender roles.

The Mid-20th Century

Due to federal and state funding cuts in the 1930s during the Great Depression, kindergarten programs went from being full-day to half-day programs. During both the Great Depression and World War II, only a handful of full-day kindergarten programs were still in service. From the 1930s to the 1950s little changed with kindergarten programs.

Due to World War II and the absence of able-bodied men for the factories, women took the men's place in the workforce. This created a need for more nursery schools and child care centers. The United States government allocated \$6 million in 1942 to support working mothers with young children. Children of women in the workforce were eligible for child care, and many states supplemented this federal aid. In 1946, after World War II ended, many women were forced to return to their homes, and the federal government stopped funding child care programs in most states. Only California, New York City, and Philadelphia continued to utilize public funding for child care programs. Due to public outcry, President Truman allocated \$7 million to continue the child care program through 1946.

There was a lack of consistent public funding for nursery schools or day care centers until the mid-1960s. Between 1948 and 1966 the percentage of married women with children in the workforce increased from 10.8% to 24.2%. The child care programs that remained opened provided care for those married women who remained in the workforce. In 1962, President John F. Kennedy signed a bill approving federal funding for child care programs. Then in 1967, the Work Incentive Program extended federal funding for child care to low-income families in jobs or job-training programs. In 1969 the Federal Office of Child Development was established in the United States. In the mid-1970s, indirect benefits such as income-tax reductions for child care and deductions for welfare mothers became popular again. ECE was, by

this time, bifurcated by class and race, with middle-class, predominantly white families experiencing predominantly private child care while poor families of color were in subsidized or informal forms of child care.

Subsidized Child Care and Welfare Reform

Although the first prekindergarten (pre-K) programs were established in 1922, only three states provided prekindergarten programs before 1960. Pre-K intends to prepare young children for kindergarten and lay the foundation for continued success through third grade. All pre-K programs share three goals: (1) high standards, (2) school readiness, and (3) serve 3-year-old children or a combination of 3- and 4-year-old children. Studies find that the majority of ECE programs for young children in the United States suffer from low to mediocre quality, high staff turnover due to low wages, and too few spaces for too many young children in need of early childhood education.

One of the longest-running pre-K programs is Head Start, which was created during the War on Poverty in January 1964 under President Lyndon Johnson. In 1965, President Johnson initiated the project Head Start and utilized the Office of Economic Opportunity (OEO) to launch this program. Head Start began as an 8-week summer program under the supervision of nursery school teacher Jule Meyer Sugarman. The goal of the program at its inception and still today is to get children in poverty ready for elementary school. The Office of Head Start reported in 2010 that it serves about 900,000 low-income children and their families. In 1994, the reauthorization of Head Start developed a new initiative to extend Head Start to infants, toddlers, and pregnant women and their families (Early Head Start). In the 1980s, ECE programs took a hit in funding due to cuts to federal spending for child care support for low-income families. During this time, private child care programs proliferated but the majority of these programs were out of reach for low-income families. However, the Child Care and Development Block Grant of 1990, which distributed \$825 million to states,

provided some support for low-income families during this time.

The division in ECE between the middle- to upper-income versus low-income families widened during the Reagan era, and this division was exacerbated by welfare reform initiatives during the Clinton era in the 1990s. Welfare reform programs created stringent work requirements on welfare recipients, many of whom were mothers with young children. Due to the realization that requiring mothers to work will also require child care support, Congress created the Child Care and Development Fund, which replaced the Child Care and Development Block Grant from 1990.

ECE Today

Many educators, policy makers, and parents advocate for universal preschool. In 2013, President Barack Obama announced a proposal to provide high-quality preschool for every American child. In December 2014, President Obama announced an investment of over \$1 billion for the early education and development of American children. The 2016 federal budget includes \$750 million to help states create and expand high-quality preschool programs in low-income communities. Furthermore, strides are being made to improve quality in, primarily, center-based care through quality rating and improvement systems that many states have adopted. As of 2015, with the exception of one state, states are implementing or in the planning stages of putting systems in place to improve child care quality.

Young children continue to be in less formal forms of ECE than the center-based forms of care. This is particularly the case for very young children from low-income and ethnic minority families. Informal care accounts for a substantial percentage of child care (estimates range from one-third to one-half of children under 5 years of age) but it is less studied and much is unknown about the experiences of children in these less formal forms of ECE. Therefore, policies that target center-based care will not cover the majority of children in child care.

There continues to be variation in regard to quality, availability, and spending. All forms of

child care struggle with maintaining or achieving high quality given the rates of staff turnover (due to low wages and low regard for the work) and rising costs of care. The United States lags behind other industrialized countries in its support for quality ECE for all families. In countries such as France and Denmark, ECE is free and considered a necessity for the full functioning of society. ECE in the United States has experienced significant developments since the 1800s and challenges remain before all families, rich or poor, of any ethnicity or language, can assume that quality, nonparental care will be available and affordable.

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See also Center-Based Care; Child Care; Child Care Policy and Practice; Early Childhood Education; Family Child Care; Head Start

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HOME VISITATION WITH MOTHERS AND INFANTS AND CHILDREN

For about half a century, home visitation has been an essential ingredient of programs for low-income, low-education families with the primary goals of enhancing the quality of mother-child relationships and supporting enriched mother-child language and learning interactions.

History and Goals of Home Visitation Programs

Among the earliest programs was the Appalachia Educational Laboratory program HOPE (Home-Oriented Preschool Education). Of the 36 Parent and Child Centers funded in 1967, some models were home based rather than center based, or they were a combination of both. For the Houston Model, for example, providers weekly visited low-income Mexican American mothers for about 1½ hours. The goals were to enhance parental knowledge of their important role as teachers of their infants and young children, and to strengthen the family through parent involvement. This outreach was particularly culturally urgent, since initially some fathers would not permit mothers to participate in any program outside of the home.

In Florida, Ira J. Gordon pioneered an early outreach program for mothers of infants. He produced many easy-to-read how-to descriptions of home visitation interactions and activities. Adapting Gordon's Follow-Through model, Project Home Base provided paraprofessional home visitors for about 300 families in Yakima. In Tennessee, Susan Gray pioneered a summer home visitation program to ensure that low-income young children would not lose learning gains made during their year at the center.

Parents with children with developmental difficulties may have transportation issues. The Portage Project was created to serve parents and handicapped preschoolers aged 0 to 6 years, where a professional educator provides materials so that parents can tutor their children at home.

Head Start has included home visitation programs since 1972. In 1973, the Child and Family Resource Program (CFRP), as part of Head Start, coordinated comprehensive services for families with children from birth through 8 years. Families could choose from a variety of resources and delivery systems, including home visitation. CFRP programs provided a range of resources, such as prenatal and preventive health care, family planning supports, and dental services, as well as supports for child transitions from Head Start to elementary grades.

In Long Island, New York, Phyllis Levenstein pioneered the Home-Child program. Home visitors over a 2-year period bring low-income moms a new book or toy every 2 weeks to help their young children increase verbal skills through book sharing and toy play activities. Rapport is established early on as the mother and home visitor jointly assemble a case to hold the materials provided. This program continues to provide services to prevent later school disadvantage.

In California, Rose Bromwich distilled the findings from her program with young mothers to provide detailed scripts of the lessons mothers were to carry out with their little ones. Her book also provides detailed examination of reasons for successes or failures with families.

J. Ronald Lally and colleagues in Syracuse, New York, provided an omnibus program for infants and children for families with low-income, high school drop-out, single mothers. Home visitation began during the second trimester of pregnancy and continued until the child graduated from the Family Development Research Program (FDRP) at 5 years of age. Paraprofessionals taught the teen mothers learning games, offered a toy and book lending library, and provided nutrition information. They modeled activities and encouraged mothers to interact in positive ways as teachers of their infants and young children. The Children's Center provided quality care for children from 6 months of age so that mothers could continue their education or seek job training. Mothers were often encouraged to come to group meetings at pick-up time when potluck suppers were provided as well as an opportunity to see their children's projects. Sensitivity to maternal needs was fundamental. One home visitor rang the doorbell on a blustery winter day and asked the mom for some newspapers to leave her wet boots outside the door so that she "would not mess the apartment." This mother lived in a chaotic situation with wet diapers strewn on couch and chairs. Over the next weeks, the visitor found cleared spaces for her to sit down. Respect and consideration for the parent is a primary value for home visitors. When the FDRP children were in their teens, follow-up comparisons with carefully matched controls showed far

fewer convictions for juvenile delinquency and less recidivism in youth who had been enrolled more than a decade earlier. Female, but not male, youth had better school records. Parents reported FDRP youth were more sociable and caring.

Home Visitation: A Primary Mental Health Support System

Selma Fraiberg pioneered what she called “kitchen therapy”—frequent home visitations over a lengthy period of time, with families where a baby was in grave emotional danger. One depressed and emotionally detached mother wanted to give her baby up for adoption. Another was starving her baby who was in severe medical danger from failure to thrive. This mother hated feeding her baby; after he fed himself a bottle, she held him over the sink (rather than putting him to her shoulder for a burp), where he then vomited. In these cases, with such serious developmental implications, the therapist was a highly trained social worker. She empathized frequently and made an alliance with each mother, to help that mom feel the emotions (often full of rage, hatred, sadness, and bitterness) from her own early childhood suffering of rejection, beatings, neglect, and even incest. The home visitor then must provide the mother with a deep sense of feeling loved and protected. The mother is carefully nurtured and helped to express emotionally as well as remember verbally the anguish of abuse suffered and thus find a way not to inflict her past upon her child. These mothers often had pathological identification with aggressive behaviors, such as severe neglect and brutal paddle beatings that they had received in childhood. The home visitor needs specialized skills to help such families rid the nursery of malignant “ghosts” from the past.

Evidence for this need for specialized skills can be seen in the outcomes of home visitation programs that focus on families with particular issues, such as drug abuse. The National Center on Child Abuse and Neglect conducted a randomized trial of biweekly visits with single, high school drop-out women who were drug abusers. However, a few years later, developmental scores of the children

were not higher than controls. One Birth-to-Three project employed paraprofessionals to visit families with chemical dependency. At the end of program many mothers still had abusive partners, and there was a high rate of birth defects in the infants born. Thus, a more intensive intervention model may be required for families with more urgent needs.

Timing of Home Visitation and Training for Home Visitors

When should home visiting begin and how long should it last? Visitations scheduled too many weeks apart may not meet the needs of families in crisis. Timing of initiating home visitation for families varies. Some programs only provide visits when a preschooler enters the program. Yet, with vulnerable parents, timing may be crucial. Research by Alice Sterling Honig and Christine Morin indicates that starting home visits prior to the birth of an infant in a high-risk family serves as a strong preventive measure in decreasing confirmed cases of abuse/neglect several years later in comparison with at-risk moms where home visitation started months after the baby’s birth.

If a mother has just experienced an episode of violence with a partner, the home visitor may have to attend empathically to the mother’s needs before introducing any new activity. If there are other children in the home, sometimes a second visitor is needed to attend to the other children while one visitor focuses on the mother and baby, suggests Bromwich. If the mother seems weary and overwhelmed, one of the dozens of jobs the home visitor might be carrying out is to help wash and dry dishes piled up in the sink. Honig, in *Parent Involvement in Early Childhood Education*, provides dozens of such tasks and activities that may be required (in addition to helping a parent make homemade toys from egg cartons and empty toilet paper rolls, for example), in the course of a visitor’s multifaceted work with families. Visitors can provide brief, easy-to-read activities for parents and children (such as those in Honig’s *Playtime Learning Games for Young Children*), particularly important for low-literacy parents or immigrant parents just learning English.

The FDRP provided intensive initial 2-week training and then weekly follow-up training for paraprofessionals, who were familiar with the culture of the families served. Weekly reports were required on how well moms had carried out an activity with baby. The paraprofessionals, a cadre of child development trainers, learned child development milestones and practiced role-plays, including positive encouragement skills to use while teaching mothers various games. Flexibility, patience, and genuine warmth are central personality characteristics home visitors need. Ingenuity helps also. Once, an FDRP visitor was not admitted to the apartment and yet heard mom and boyfriend laughing behind the door. With permission, she phoned from a neighbor's apartment. When the mom acknowledged remembering she had made the appointment, the visitor cheerfully remarked, "Well, I am just next door; so thank you for opening your door and I will be right there for you!" Debriefing sessions are important for home visitors. They need to share frustrations and puzzles, as well as creative techniques and ideas with others in their cadre.

Home Visitation as a Deterrent to Insecure Infant Attachment

Dymphna van den Boom reported on a study of low-income Dutch mothers of babies with highly irritable temperaments who were randomly assigned to receive home visitation or not. Mothers in the experimental group were taught how to swaddle and to soothe their highly irritable infants. These interventions worked. Visited infants at 1 year were impressively far more likely to be securely attached to mother (as measured by the Ainsworth Strange Situation) than the babies who had not received home visitation.

Formative and Summative Evaluation Measures

Measures of program success or disappointment vary. Mothers' own remarks are often a yardstick of the degree of trust built with a home visitor. Trust is the foundation that can support maternal

changes toward more involved, pleasurable, and facilitative mothering transactions with a very young child. One FDRP mother confided that she had not believed a visitor "was in it for anything except the money" and now felt that her home visitor really cared about her and her child. Some parents begin to use more positive discipline techniques and cut down on whippings. One mother learned from the home visitor how to make a one-dish casserole and could then sit with her children at dinner in contrast to the mealtime chaos she had reported initially. Bettye M. Caldwell and Robert H. Bradley's Home Observation for Measurement of the Environment (HOME) checklist has proven useful in monitoring positive provision or worrisome lack of progress in parenting transactions that the visitor is encouraging. Some programs use standardized intelligence and language scales to learn whether the child is still lagging or on target in language, learning, or motor milestones.

Sleeper effects of programs may occur years after children have moved to elementary schools or even later. David P. Weikart, founder of the Ypsilanti Carnegie Infant-Education Project, revealed such effects when program children were in early school grades; this program also provides curricular guidelines for home visitors, according to Dolores Z. Lambie and colleagues.

In a randomized control group trial in Elmira, New York, David L. Olds recruited trained nurses to make home visits beginning prenatally. The Nurse-Family Partnership program reported 19 years later fewer repeat pregnancies, fewer childhood injuries, and less cigarette smoking among the home-visited moms, as reported by John Eckenrode and colleagues. This program has been replicated nationwide.

Home Visitation Can Be Challenging

What accounts for lack of success in home visitation work? Some mothers have suffered abandonment and are very slow to warm up lest if they show their anger at the "stranger" who visits, then the visitor might stop coming. A home visitor has

to be able to reassure a mom that despite her anger, the visitor will be there for the mom week after week.

A home visitor needs to engage the parent in the delights of baby, watching for tiny signs of learning and developing. A home visitor has to be alert to tiny positive changes in the mother–child relationship and clearly, with loving admiration, point out how much the child needs and loves to have a mom who can tell when the child needs intimate attention, food, or a diaper change. The visitor helps parents empathize with what the child is feeling (e.g., after many changes of babysitters) rather than calling a cranky, crying tot a “mean kid.”

Some families have too many problems, especially when the mother experienced severe childhood abuse, no current socially supportive partner or family member, and depression—so it seems too difficult to focus on the needs of the infant. Specialists are needed for such cases.

Optimism should be part of a home visitor’s emotional toolbox. Sometimes peaceful modeling causes a sudden change. One mother reported contemptuously and angrily that her toddler tore books and she would not allow him near a book. When the home visitor demonstrated snuggling with the toddler, while turning the pages slowly and exclaiming over each monkey (rather than reading the *Curious George* story as written) the mother was so amazed at the toddler’s attention and interest that she consented to go with her home visitor to get a library card and take out books to share with her child. A home visitor rejoices in small changes.

The Value of Home Visitation

With persistence, skills, knowledge, patience, and a vast reservoir of genuine caring for the families served, home visitors make a positive difference daily in the lives of stressed families and those who need supports to understand and meet the emotional and cognitive needs of young children for intimate, language-rich, and wisely programmed learning experiences that parents can be so special in providing during everyday interactions. The May 2015 National Summit conference

on Quality in Home Visiting Programs attests to the continuing vibrancy and importance of this delivery system for services to families and young children.

Alice Sterling Honig

See also At-Risk Families; Home Visits; Home-Based Early Childhood Education; Home-Based Early Intervention Practices

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HOME VISITS

Home visits are a form of service provision where early childhood professionals work with children, parents, and families in the context of their own home environment. Home visits are often used as part of early childhood programs to enable teachers to learn more about children in their care and to promote parent involvement. During the past 50 years, as a part of the War on Poverty in the 1960s, there has been a growth in the use of home visits as an intervention strategy to promote the adaptation of young at-risk children and their families. Renewed interest in home visits has occurred since 2010, when the U.S. Congress instituted the Maternal, Infant, and Early Childhood Home Visiting (MIECHV) Program. Authorized by the Affordable Care Act, this program provides federal funding to expand home visiting services to families from pregnancy until children turn age 5. This entry provides information on different models of home visits, and service considerations in implementing home visiting programs.

Models for Home Visits

A Component of Center-Based Programs

Home visits are a part of many center-based early care programs and are offered by early childhood teachers and educational professionals. Visits may occur prior to the start of the school year and at other times during the school year as a means for teachers to get to know the child and family. When used at the start of the year, home visits may help the child transition to the school environment and adjust to a new school, classroom, or teacher.

There are multiple reasons why early childhood professionals may find home visits valuable. Visits can help teaching staff better understand the ecological context of the child and family. They can also become more familiar with family culture and parenting practices within the home in order to better meet the child's needs in the classroom. Meeting with parents and families may help increase communication, facilitate home-school connections, and build relationships between parents, teachers, and children to facilitate parent involvement. Home visits may also be used to link parents and families with other educational, social, health, and community services they need to support their child developmentally, academically, and socially.

Intervention Programs

Home visits can also be offered as part of preventive programs or as an intervention strategy to assist at-risk children and families. Programs may be stand-alone efforts or integrated as part of a larger early childhood program or intervention. In the United States, there are home visiting components to educational programs such as Even Start, Early Head Start, and Head Start. Among the home visiting models in use are interventions such as the Nurse-Family Partnership, Parents as Teachers (PAT), Healthy Families America, the Parent-Child Home Program (PCHP), and Home Instruction for Parents of Preschool Youngsters (HIPPIY). These models have different goals, target populations, and service models.

A common characteristic of programs is that visits are offered at regular intervals to families

within the home environment by educators, health care personnel such as nurses, social workers, or other human service workers. While home visits may be conducted by early childhood professionals, some models of home visiting utilize paraprofessionals trained in the application of the particular model, or parents who have successfully completed home visiting programs. Service intensity and duration of programs can vary greatly depending on the model. Visits may occur anywhere from biweekly to monthly. Some programs require families to participate for a specific duration of time or receive a certain number of visits to complete the program curriculum; others may only serve families until children reach a specified age.

Programs have a wide range of goals including promoting children's health, well-being, and improving educational, cognitive, and developmental outcomes. They can also support parenting to decrease parental stress, increase knowledge of child development, support parental use of age-appropriate childrearing and discipline strategies, improve parent-child relationships, and ultimately prevent child maltreatment. Programs may also assist with family development including supporting family adaptation across a transition (e.g., becoming a new parent), fostering self-sufficiency, family cohesion, communication strategies, and managing family challenges including mental health issues, trauma, and social isolation.

Programs may serve children and families at different stages, from pregnancy through the early childhood years. Programs may target different groups of families for intervention including those living in poverty, teen parents, children with health risks or developmental disabilities, immigrant families, Native Americans living on reservations, parents with mental health concerns, and caregivers with limited educational attainment.

Service Considerations

Home visits are utilized to reduce families' barriers to accessing services. However, program retention can be a problem for all family support

programs, including those that are home based. Early childhood professionals working within the home environment need to be cognizant and respectful of family diversity, cultural norms, and practices, and be attentive to family needs and strengths to empower families. In implementing programs, staff must be trained to help them learn how to build strong relationships with caregivers and to fully understand how to best implement the program model being utilized. Both the quality of the home visitor-family relationship and service intensity are important to family retention and progress in programs.

While research on specific models shows the promise of home visiting, attention to program accountability, implementation, quality, and effectiveness, both short- and long-term, is needed. The Maternal, Infant, and Early Childhood Home Visiting Program has provisions to increase our knowledge base regarding home visiting programs through the use of rigorous, experimental-design evaluation studies of funded interventions.

Patricia Hrusa Williams

See also At-Risk Families; Early Head Start; Head Start; Home Visitation With Mothers and Infants and Children; Home-Based Early Childhood Education; Home-Based Early Intervention Practices; Parents as Teachers

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HOME-BASED EARLY CHILDHOOD EDUCATION

Home-based early childhood education refers to the array of early care and education (ECE) arrangements provided for children under the age of 5 in home-based settings. These arrangements can be categorized as relative care (care by a relative of the child, such as a parent or grandparent, in either the child's home or the relative's home), nonrelative care (care by a nonrelative, such as a babysitter or nanny, typically in the child's home), and family child care (care of a small group of children in the provider's home). This entry examines patterns of use of home-based ECE settings, the quality of these settings, and links between participation in these settings and children's development. The concluding section discusses implications for policy and practice.

Patterns of Use

The majority of children under age 5 in the United States today regularly spend time in ECE arrangements. A substantial share of these children are cared for in home-based arrangements. According to U.S. Census data, in 2011, 42% of children under 5 were cared for by a relative and 11% were cared for by a nonrelative, in either the child's home or the provider's home. Twenty-four percent of preschoolers were regularly cared for by their grandparent and 18% were cared for by

their father. Less common was care by other relatives (7%), by the mother while she worked (4%), and by siblings (3%).

There is variation in the use of home-based ECE arrangements by race/ethnicity, family income, and child age. The evidence for race/ethnicity is mixed. Some national studies suggest that the use of home-based care is highest among Hispanic and Black families, but other national surveys have not found such variation. Regardless, across non-Hispanic White, Black, Hispanic, and Asian families with employed mothers, fathers and grandparents are the most common child care providers. With regard to family income and poverty status, children from higher-income families are more likely to be cared for in center-based settings and children from lower-income families are more likely to be cared for in home-based settings. According to U.S. Census data, families with employed mothers living below the poverty level are more likely to rely on sibling care (21%) than those living at or above the poverty level (9%). In contrast, those living at or above the poverty level are more likely to rely on family child care (8%) than those living in poverty (4%). There is also variation in the use of home-based care by children's age. Children under age 3 years are most likely to have a home-based arrangement as their primary source of non-parental care, whereas preschoolers (3- and 4-year-olds) are most likely to have multiple care arrangements that include some home-based care.

Quality of Home-Based Arrangements

The quality of ECE settings is typically defined in terms of *process* and *structural* features of care. *Process* refers to the nature of the caregiver-child relationship and the interactions within the ECE setting. Across home- and center-based settings, children show better developmental outcomes when their caregivers provide plenty of verbal and cognitive stimulation; are sensitive, responsive, and supportive; and give children large amounts of attention. *Structural* features of care include the caregiver's educational background and training, the total number of children cared for in the ECE setting, and the ratio of children to caregivers.

Each of these features has been linked to process quality and, in turn, to children's development. Across different types of care, centers tend to have the largest group sizes, the highest child–adult ratios, the most stimulating physical environments, and caregivers with the most training and education. Family child care homes tend to fall in between centers and the care provided by grandparents and nannies on these dimensions of quality.

Effects of Home-Based Settings on Children's Development

Across center- and home-based settings, children with more educated and trained caregivers and those who receive higher-quality care tend to score higher on tests of cognitive and language development. Consistent with the stronger educational focus of center-based care, children in centers have been found to score higher on standardized cognitive assessments than children in home-based settings. With regard to children's social-emotional development, however, there is evidence that more time spent in center-based care and with large groups of peers in early childhood is related to children's behavior problems, suggesting that there may be social-emotional benefits of home-based care. The evidence for type of care is more mixed for children from low-income families. Some research suggests that low-income children benefit cognitively from center-based care and that those in family child care homes show higher levels of behavior problems than those in other home-based settings. Other evidence, however, suggests that it is the quality of care—not the type of care—that matters most for low-income children's development.

Implications for Policy and Practice

Across demographic groups, home-based ECE arrangements are widely used by parents of young children. Research suggests that the quality of home-based care is better and children are better off when caregivers are well educated and trained

and when group sizes meet recommended cut-offs. Although informal home-based arrangements such as relative care are not regulated by the state, family child care homes are subject to state regulations. These regulations vary widely. The evidence presented here suggests that, in order to support young children's optimal development, states should regulate the education and training of family child care providers and require that child care homes meet recommended group sizes.

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See also At-Risk Families; Center-Based Care; Child Care; Early Childhood Education; Family Child Care; Quality

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HOME-BASED EARLY INTERVENTION PRACTICES

Home-based early intervention (HBEI) practices refer to methods and considerations for providing

early intervention (EI) services to children and families affected by or at risk for disabilities in naturalistic and inclusive settings. EI services delivered in the home are often misunderstood and likened to “babysitting.” This entry (a) describes HBEI practices, (b) delineates benefits to HBEI practices, and (c) discusses ethical considerations specific to working in a family’s home.

Overview

Recent changes in practice and policy recognize naturalistic settings as the most beneficial and appropriate place to provide EI services. A naturalistic setting is considered any place where the child engages in everyday activities (e.g., home, backyard, local library). Consequently, early interventionists’ approach to service provision has experienced a paradigm shift requiring profound changes in the preparation of service providers. Traditionally, EI was provided in clinical or classroom-like settings and was considered to utilize a child-centered approach. Providing services in the home or naturalistic settings requires service providers to use a family-centered approach. In a family-centered approach, the service provider is considering the entire family system (i.e., all of the family members) when programming and delivering EI services.

Federal special education policy, the Individuals with Disabilities Education Improvement Act of 2004, defines early intervention services to include services in the home, in the community, and in other settings for children birth to 3 years old. The plan used to guide the intervention services of a child under the age of 3 years is called the individualized family service plan (IFSP). At age 3, children transition from the IFSP to the individualized education program (IEP). As long as the child remains eligible for special education services, the child will be qualified to have an IEP until he or she graduates from high school.

EI programs and services may occur in a variety of settings, but there is an emphasis on services taking place in the natural environments for the child and their family or caregivers. These EI

programs are proven to be most effective when started as soon as the delay or disability is identified for the child. Services may be preventive in remediating existing developmental problems or preventing their occurrence. These interventions can occur in the home, school, community, or other settings.

Naturalistic Settings and Parent Training

Skill acquisition in naturalistic or inclusive settings and parent training are cited in the literature as the two strongest benefits to providing HBEI services. Moreover, providing HBEI services allows service providers to target skills using routines and materials that are familiar to the child. Additionally, service providers are able to consult with family members to identify common language to use during routines, thereby maintaining continuity between the targeted home visits with the service providers and the everyday follow-up practice with the family.

HBEI services are cited as advantageous in facilitating skill acquisition because they increase (a) parental opportunities to practice targeted skills, (b) the likelihood of skill generalization, and (c) inclusive practices by targeting skills that will facilitate a child’s full participation in family activities. Moreover, service providers can support parents by encouraging practicing of skills that the child is currently acquiring in the child’s natural environment.

During home visits, service providers and family members can review and discuss components that are necessary for the child’s success as indicated on the IFSP. Some examples of the aforementioned components include (a) levels of assistance necessary to use with the child when working on a targeted skill, (b) specific language or phrases to be used with the child in order to elicit a specific desired response, (c) intentional plans to provide multiple opportunities for the child to practice a skill that is still developing within the child’s repertoire, and (d) parent behaviors that are necessary to promote learning.

It is well documented that parents and primary caregivers are the most influential teachers most children will ever encounter. Training families to actively participate in practicing targeted skills in the natural environment can result in positive child outcomes and empowered families. However, while it is critical to provide families with specific targets to work on for the week, it is just as imperative that the service provider not overwhelm the parent with too many “homework” activities.

Working in a Family's Home

The family–service provider relationship is highly unique in that the intervention services are delivered within the comfortable, safe family space. Consequently, the service provider and family must cultivate a relationship with clear roles and responsibilities while maintaining respect, trust, and sensitivity. For example, the home-based interventionist must be prepared to be informed of or witness to highly personal and private family matters (e.g., parental discord). Because of the unique position of working closely with families in the home, service providers are encouraged to become well versed and confident in their profession's code of ethics.

HBEI providers' professional organizations and accrediting bodies appreciate the unique ethical considerations faced by early interventionists when working closely with families. Many of these organizations have created codes of ethics for professional members; however, translating ethical conduct into practice, particularly when the interventionist is working in the home, requires highly self-reflective practices and consistent, respectful collaboration with families.

When working in the home with a family, the early interventionist will witness many common practices within the family that may be attributed to the family's culture or simply the family's unique dynamics. The HBEI provider is encouraged to use her own judgment while observing family practices and reframe her “lens” to maintain a position of respect and sensitivity to the unique dynamic of the family. Moreover, HBEI providers will want to consider what they already know or understand

about families' cultural backgrounds and be prepared to make adjustments to service delivery as necessary. For example, a male service provider would likely want to schedule a teaching session in the home of a Muslim family and some Christian families when an adult male family figure is present in the home during the time of the teaching session.

Another critical ethical consideration for the HBEI provider is the issue of family privacy and confidentiality. As an HBEI provider, one has been invited into the family's home and trusted to participate in a highly sensitive area of their life. Service providers are to behave as utmost professionals and adhere to strict standards of confidentiality. Finally, any professional working with children is obligated to use proper channels to report any suspected abuse or neglect of a child.

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See also Cultural Competence; Early Childhood Special Education; Family Partnerships; Family Structure Diversity in the Early Childhood Program; Family-Centered Practices; Home Visitation With Mothers and Infants and Children; Home Visits

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HOMELESSNESS

Homelessness is a living condition in which children and youth as individuals lack a fixed, regular, and adequate nighttime residence. The McKinney–Vento Homeless Assistance Act (42 U.S.C. §11434a) identifies homeless children and youth as those who

- share the housing of other persons due to the loss of housing, economic hardship, or a similar reason;
- are living in motels, hotels, trailer parks, or camping grounds due to the lack of alternative adequate accommodations;
- are living in emergency or transitional shelters;
- are abandoned in hospitals;
- are awaiting foster care placement;
- have a primary nighttime residence that is a public or private place not designed for or ordinarily used as a regular sleeping accommodation for human beings;
- are living in cars, parks, public spaces, abandoned buildings, substandard housing, bus or train stations, or similar settings; and
- are migratory children who qualify as homeless because they are living in circumstances described in the previous clauses.

Homelessness has always existed, but children who are without a home have never received adequate attention in early childhood education systems. Researchers estimate that more than 500,000 children between the ages of birth and 5 years in the United States are homeless in the course of a given year. Children who do not have stable living environments experience more health problems, developmental delays, and behavioral problems than children living in low-income families with homes.

According to the U.S. Department of Education, 1.4 million homeless students were enrolled in public schools in the United States during the 2013–2014 school year. Families make up roughly one-third of all people without homes in the United States, and 84% of families experiencing

homelessness are headed by women, according to the National Center on Family Homelessness. Many of these families are headed by single females under 30 years of age who have suffered from physical abuse, mental illness, substance abuse, or social ostracism. When mothers of young children suffer from any one or more of these conditions, nurturing relationships are often adversely affected.

Historical Perspective of Homelessness

During the Great Depression, transient homeless were mainly young men (and a small number of women) who moved from place to place like nomads in search of employment. Many of these individuals left their parents' homes in order to ease economic hardships. They also left because they saw no viable employment options in their hometowns.

When the United States entered World War II, the homeless population was drastically reduced because many young men either were drafted into the Army or were employed in the war-booming industries that built supplies and weapons, causing the homeless population of the 1930s to almost disappear. Although fewer people were homeless during this period, the homeless population was now mostly made up of elderly individuals.

Most homeless people from the 1950s through the 1970s had shelter, though it was inadequate. Few lived out in the open or in public places. Even though the postwar economy continued to expand, homelessness still persisted, especially among older and alcoholic men.

In the 1980s, a new version of homelessness materialized exhibiting very different characteristics. It became more common for those without homes to live in doorways, in cardboard boxes, abandoned cars, in railroad or bus stations, and other public places. These changes in living arrangements were juxtaposed with a changing perspective from law enforcement, and public inebriation, loitering, and vagrancy were common charges against homeless individuals.

However, the major change in homelessness was that increasing numbers of women and young families (with children below age 6) were being

counted among the population. More women applied to public welfare departments for aid and shelter. Diverse ethnic groups make up the majority of homeless families, especially those who are chronically homeless. Ninety percent of women who experienced a period of homelessness within one Philadelphia shelter were African American. Some experts argue that the overrepresentation of African American women among homelessness parallels their overrepresentation living in poverty.

Homelessness Today

With more young families represented in the homeless population at the beginning of the 21st century than single men, the elderly, or individuals with special needs, homelessness has changed substantially. Policies and programs have been put into place for homeless families. For example, the U.S. Department of Health and Human Services and U.S. Interagency Council on Homelessness spearheaded new advocacy efforts with the convening of its series of Homeless Policies Academies between 2001 and 2013. They focused heavily on addressing the needs of homeless children and families through collaborations between federal, state, and local policy makers. Research continues to focus heavily on the characteristics of these families, the barriers that they face, how the social environment affects them, and how to meet their needs.

Early Childhood Education and Homeless Populations

Young children who do not have stable living environments also have multiple other risk factors, such as experience with violence, poor physical health, hunger, nutritional deficiencies, emotional and behavioral difficulties, anxiety, and depression. These factors contribute to delayed development and educational disruption. The McKinney–Vento Homelessness Assistance Act of 2000, which expanded the services provided under the Stewart B. McKinney Homeless Assistance Act of 1987, has increased educational stability for some children.

The National Association for the Education of Homeless Children and Youth states that the most

common age for a person in the United States to stay in a homeless shelter is during infancy. Mothers in shelters are typically young, have very low income, and were not likely to have received adequate prenatal care, leading to a higher risk of premature births. Most children without stable homes do not stay in shelters due to limited availability and strict rules. It is much more likely that families with young children would be staying with others because of lack of a place to go. These situations offer little stability and the family may be moving in with others after a few weeks or months.

Accessing early learning programs for their children is a challenge that many homeless parents are not able to meet. The high rate of mobility, lack of transportation, fear, and shame about their circumstances all contribute to this difficulty. In about half of all states, families with no countable income are still billed for child care copayments. Without access to child care, mothers are often not able to seek employment.

Massachusetts and Oregon have developed unique policies to ensure access to high-quality early care and education programs for children who are experiencing homelessness. The Massachusetts plan involves interagency collaboration, engagement of the private sector, and academic research. Oregon has focused on developing local systems and encouragement of collaboration across various sectors of early childhood education.

Although parents who do not have stable living arrangements may not be able to participate in traditional ways with their children's education, some strategies for teachers that have been successful include setting up a parent lounge for support groups to meet, providing reading materials about child development and lists of local resources for family services, creating a toy lending library, providing clothing/food/first aid materials banks, and assuring confidentiality when helping families to obtain services.

Reginald Harrison Williams

See also At-Risk Families; Chronic Illness; Economic Status and Geographic Influences on Development and Learning; Effective Advocacy Practices; Mental Health Services; Nutrition; Poverty Effects

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- National Law Center on Homelessness and Poverty: <http://www.nlchp.org>



IDENTIFICATION OF SPECIAL NEEDS

Identification of special needs refers to the process of identifying children who have a disability or are at risk for developing a disability that can affect any or all areas of development and learning. Research provides strong evidence that early care and intervention can lessen or eliminate the negative impact of having a disability or being at risk for having one. This is why it is so important to identify all children with special needs as early as possible. This entry provides information about the process and procedures used to identify children with special needs, including those that are mandated by law and considered best practice in the field.

Introduction

The importance of growth and development in the early years is universally accepted. Engaging opportunities to interact with individuals and the environment are critical. The most important intervention for all children is providing high-quality learning environments. However, many children may have internal or external factors that inhibit optimal development or place stress on the developmental process. Children who have delays or a disability or are at risk are at a disadvantage and may need additional appropriate interventions. Longitudinal research provides evidence of

the importance of identifying children with special needs as early as possible. This has resulted in laws to mandate and support the identification of young children with special needs.

Legal Basis

The Education for All Handicapped Children Act (EHA) was passed in 1975 and provided the requirements, funding, and guidelines for the education of students with disabilities. This law mandated six principles for the identification and education of individuals with disabilities:

1. Free appropriate public education
2. Nondiscriminatory evaluation
3. Development of an individualized education program
4. Education provided in the least restrictive environment
5. Implementation of due process procedures
6. Parent participation

This law initially mandated these provisions for children ages 3 to 21. However, when Congress reviewed the impact of the law 10 years later, it became very clear that the preschool age and younger populations were not being served adequately. In 1988, an amendment to EHA enhanced the requirement for states to provide services to

children ages 3 to 5, and provided monetary incentives for the states to provide services to infants and toddlers. The current legislation, the Individuals with Disabilities Education Act, is known as IDEA. The two parts of this legislation that affects early childhood are known as Part B and Part C. Part B provides the guidelines for services for ages 3 to 21, and Part C provides the funding and guidelines for early intervention services for infants and toddlers. The first step in providing appropriate services for young children with special needs is the evaluation process to identify the children that need these interventions.

Identification Process

Screening

The first step in the evaluation process to determine if a child is delayed or has a disability is known as screening. *Screening* is a brief formal or informal assessment to determine if a child should be referred for a comprehensive evaluation in one or more sensory, developmental, or academic areas. In general, screenings are evaluated by a pass/fail system using a predetermined cut-off score or criteria. If a child passes, no further action is required. If a child fails the screening in any or all areas, the child is flagged, and a referral for more comprehensive assessment is initiated. A parent or guardian must give written permission for further evaluation to begin.

Because of the brief nature of screening, errors can occur. A child may “fail” the screening, be referred for further testing for a suspected problem, but after comprehensive testing, is determined to be within normal limits. This is called a *false positive* error. In contrast, there could also be a *false negative* error. This occurs when a child “passes” the screening, but in actuality does have a delay or disability. The child does not receive the comprehensive assessment and thus does not receive the special services he or she may need.

Initial screening will usually begin with vision and hearing. This is important because if a child has a vision or hearing problem, other developmental and academic areas would be affected. For

example, a child may have a hearing impairment due to middle ear infections and be exhibiting a speech problem. If the hearing loss is remedied by placing tubes in the child’s ears, the speech problem may resolve without intervention.

Comprehensive Diagnostic Evaluation

A comprehensive evaluation is initiated in all areas that have been flagged during the screening process. For example, if a preschooler failed the Speech/Language and Motor areas of the screening process then a speech-language pathologist would complete a comprehensive speech and language assessment and a physical therapist would complete a fine and gross motor evaluation. This will entail the use of valid and reliable assessment tools and procedures, and can include both formal and informal assessments.

All assessment data and other relevant information are gathered and shared with the parent and a team of professionals who are working with, or anticipated to work with, the child. This assessment information includes the comprehensive evaluation, a review of records, observations of persons interacting with the child, medical history, and so on. The purpose of this team process is to make informed decisions regarding the child’s development and needs.

Determination of Eligibility for Services

The assessment information is first reviewed to determine if the child meets the criteria for any of the categories identified as a disability in the law. For example, one of the criteria to determine whether a child has an intellectual disability for ages 3 to 21 is an IQ score below 75 or 70 (depending on the state). Each special needs category has specific criteria that must be met in order to designate a child with a specific disability. Criteria may vary from state to state and can mean a change in a child’s eligibility if the child relocates.

If the child does not meet the criteria for a disability category the team will still identify strengths and weaknesses and recommend further monitoring. If the child does meet the criteria as a child

with a disability under the law, then a second review of the assessment information will begin to determine intervention planning.

Intervention Planning

Once a child is diagnosed as having a disability, the law mandates that a written intervention plan be developed. This plan is known as an individualized family service plan (IFSP) for children birth through age 2. If the child is over 3 years of age an individualized education program (IEP) is developed.

Process for Identification of Special Needs Unique to Infants and Toddlers

The federal law mandates that any child, birth through age 2, that is identified with a developmental delay is eligible for early intervention (EI) services. The law also encourages a comprehensive system that monitors children at risk for a developmental delay. Each state must establish the criteria for eligibility. Part C legislation mandates a system to locate children who may be eligible for EI services. This system is known as *Child Find*. Child Find provides developmental information to all families and agencies involved with young children. It also establishes a structure for evaluation beginning with a referral for sensory and developmental screening.

Referral/Screening

Every child born in a U.S. hospital is screened by physicians using the Apgar scoring system. Newborns are rated for appearance (color), heart rate, reflex irritability, activity, muscle tone, and respiratory effort. This score is used to determine if further medical assistance is warranted. If there is reason to believe that continuous monitoring or services are needed, a referral is made to Child Find. Most premature infants and infants with other neonatal risk factors will be referred for further monitoring.

Children with established disabilities such as Down syndrome or cleft palate are easier to locate because of early referrals from medical

professionals and social service agencies. Milder developmental delays may go unnoticed. Child Find utilizes community outreach and education to help find children with milder delays. Brochures and public service announcements are often available in settings and events frequented by families.

Child Find sometimes offers mass screenings in public settings such as community centers or public schools. Screening usually takes 10 to 15 minutes and can be completed by a formal or informal process. At this age, some information will be acquired through direct observation but most will be provided by the parent or caregiver. The Child Find screening process also involves gathering information from the families about their concerns about children's well-being and development. This can be accomplished through questionnaires and interviews. The screening process will determine if the child does not need further assessments, if the child should continue to be monitored, or if the child should receive a more comprehensive diagnostic evaluation.

Comprehensive Diagnostic Evaluation and Assessment

A multidisciplinary evaluation will be conducted for all children who have been indicated by the screening if the parent gives consent for such evaluation. Children who fail the hearing or vision screening are referred for an evaluation by an audiologist or optometrist, respectively. If there are other areas of concern, an evaluation of all developmental areas, including cognitive, communication (speech and language), motor, social-emotional, and adaptive, is completed. The multidisciplinary team may consist of a psychologist, developmental specialist, speech-language pathologist, physical therapist, and occupational therapist. The evaluation should include a variety of assessment tools and procedures including informal parent report. Best practice includes observation in natural environments and play-based assessment, and incorporates the family in the assessment process. Family assessments are also conducted to determine the resources, priorities, and concerns of the family.

Eligibility

States are discouraged from identifying infants and toddlers by a disability category. Children are eligible for services if they have a diagnosed physical disability such as Down syndrome or a developmental delay (DD). Because the definition of DD was left to the states, a child's eligibility for services varies from state to state. Often the criteria for determining eligibility are defined as the number and/or percentage of months of delay. Some states also have eligibility for children at risk of experiencing developmental delays.

Individualized Family Service Plan

When a child is found eligible for EI, then an IFSP is written. A service coordinator is selected to be the contact person for the family to ensure access to and coordination of services. A meeting is scheduled to complete the IFSP and includes the family, the service coordinator, at least one member of the evaluation team, and any other relevant service providers. This team reviews not only the child's strengths and weaknesses but also the family's resources, concerns, and priorities. The goal of this process is to provide families with the information they need to make informed decisions regarding the services they want for their child and themselves. This team identifies expected outcomes, the services needed to achieve these outcomes, and how to determine if the outcome is met. Any direct services to the child will occur in natural environments such as the home. Services may include but are not limited to family training, health services, nutritional assessment, family counseling, physical therapy, speech-language therapy, occupational therapy, transportation, and assistive technology.

Process for Identification of Special Needs Unique to Preschool (Ages 3–5)

Screening/Referral

Similar to EI, the identification of children with special needs begins with a referral to Child Find. Local education agencies (school districts) are

generally responsible for providing Child Find services for ages 3 to 5 prior to entry into kindergarten. Parents, preschool teachers, or pediatricians or other medical personnel are the common referral agents. Screening may occur individually or in small groups in community-based settings.

Screening for this age group includes sensory ability, all developmental domains, and school readiness skills. If any area indicates concern in the screening step, then a referral for more comprehensive assessment is generated. As mentioned earlier, both false positive and false negative errors may occur.

Comprehensive Diagnostic Evaluation

Parents must provide written permission for an assessment to begin. A multidisciplinary assessment team provided by the local education agency (LEA) conducts the diagnostic assessment. Ideally, this would include parent report, formal and informal assessments, and context-based data collection from multiple sources and settings. Once all the assessment processes are complete, a meeting is scheduled with the parents, assessment team, an LEA representative, and other relevant personnel such as potential providers of services to determine eligibility for services.

Eligibility and Program Planning

The first goal of this meeting is to determine if the child is eligible for services as designated by the federal law, IDEA, as a child with a disability. Categorical designations can be given at this age, but DD is still available as an option until ages 6 to 9, depending on the state.

IDEA lists 13 disability categories under which 3- through 21-year-olds may be eligible for services:

- autism
- deaf-blindness
- deafness
- emotional disturbance
- hearing impairment
- intellectual disability
- multiple disabilities

- orthopedic impairment
- other health impairment
- specific learning disability
- speech or language impairment
- traumatic brain injury
- visual impairment (including blindness)

If it is determined that the child is eligible for services under IDEA, then an IEP is written. The IEP includes a summary of the child's strengths and weaknesses and specifies goals, and identifies services to be provided, intensity and duration of services, and personnel responsible for the implementation of the IEP. Parents are an integral part of this process and must give written permission prior to implementing the IEP. However, unlike the IFSP, the IEP focuses primarily on the child's needs (not families' needs).

Process for Identification of Special Needs Unique to School-Age Children

Early childhood is generally defined as birth to age 8 or 9. Therefore, early childhood also includes the early school-age population. Any infant, toddler, or preschooler who is identified as having a disability and who continues to meet eligibility criteria will have an IEP written yearly by the public school system. However, it is not uncommon for some children to first be identified upon their participation in early elementary school.

Screening/Referral

Most school districts screen all children in the early grades for vision and hearing problems. If the child is indicated by the screening as having a vision or hearing concern, a referral is made to an optometrist or audiologist, respectively. Mild disabilities may not be detected prior to school entry. It is usually the regular education teacher that notices difficulties in academic performance or behavior. When the regular education teacher has concerns, most schools provide a team of professionals to review concerns and initiate a prereferral intervention process. The goal of this process is to determine if there are other methods or programs that would better

assist the child's learning and interactions. This is known as response to intervention (RTI). RTI is not mandated by IDEA but is common practice in most states. If the child continues to have difficulties after several different interventions, then a referral for an evaluation is initiated to determine if special education is indicated.

Comprehensive Diagnostic Assessment

Evaluation procedures are implemented by a multidisciplinary team. The tests and procedures will vary depending on the reason for the referral, screening results, and eligibility criteria. However, two areas that are frequently assessed are achievement and intelligence. Obviously, if other areas of concern such as speech and language, social-emotional, or physical development exist, those will also be evaluated.

Eligibility and IEP Program Planning

A multidisciplinary team that includes but is not limited to the LEA representative, a regular education teacher, a special education teacher, parents, and other appropriate personnel such as a physical therapist reviews the assessment results to determine if the child meets the eligibility criteria under IDEA. If the child is determined to be eligible and the parents provide written permission, the team develops an IEP just as was described for preschool-age children.

Conclusion

Although the processes are similar in all age groups as described in the introduction, there are some important differences. The identification process for infants and toddlers focuses more on the family's needs and resources and results in an IFSP. There are also differences in the categories available to determine eligibility. Preschoolers are primarily assessed in developmental areas whereas assessment for school-age children focuses on academic and behavioral areas. Unique to the school-age population is a prereferral intervention phase known as RTI.

Controversies

The processes for the identification of children in need of special education are not without controversy. The use of disability labels and the stigma attached has been debated for years. There is also concern regarding the overrepresentation of minorities in certain disability categories that is central to the debate regarding whether assessment tools and practices are sensitive to young children who are culturally and linguistically diverse. And finally, there is the question regarding what happens to those children with delays or difficulties who do not meet eligibility criteria and, therefore, are not eligible for services through IDEA funding. Most children will continue to be monitored, but states differ in specialized services that are offered.

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See also Assessment, Limitations of; Developmental Assessment; Interpreting Assessment Data; Observational Assessment

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IDENTIFYING AS AN EARLY CHILDHOOD PROFESSIONAL

This entry examines the definition of a profession as distinct from other occupations and the interdisciplinary environment of early education. It reviews the development of the early childhood profession and historical shifts that affected professional identity and public perception of professional status. The current status of early childhood teachers as professionals, initiatives to raise status, and indicators of the degree to which teachers of children from birth through age 8 identify as members of the early childhood profession are reviewed.

Professions as Distinct From Other Occupations

Sociology offers two approaches to defining a profession. The sociological trait model proposes that if an occupation has specific traits then it is a profession. Examples of those traits include shared core knowledge and skills, accredited training programs affiliated with institutions of higher education, certification based on demonstrated competency, a professional organization, an agreed-upon code of conduct, and an altruistic call to public service. The structural–functional model proposes that if the public has high stakes in the occupation's work and professional skills are based on a shared core body of knowledge, then the occupation has the responsibility to protect the public by organizing a professional association, developing a code of ethical conduct, and developing professional preparation and a certification system.

Applying either of these models indicates that teaching is a profession, although some would argue

that the professional status of teachers is recent and unstable. In early childhood there are additional lingering questions about whether everyone providing care and education to young children from birth through age 8 is a member of the profession, whether some are paraprofessionals rather than full professionals, and whether the profession is defined by the unifying function of care and education for young children or by the different systems that deliver early care and education.

The Interdisciplinary Environment of Early Childhood Education

Multiple professions or disciplines intersect to deliver early childhood services to young children and their families. These include early childhood educators, social workers and home visitors, pediatricians and pediatric nurses, psychologists and mental health professionals, child development researchers, early childhood policy makers, and public administrators. While this rich, interdisciplinary environment nurtures professional collaboration and deepens each profession's understanding of the needs of children and families, it also creates challenges to identification with a distinct profession of early childhood education (ECE).

Development of the Early Childhood Profession

Kindergarten and Nursery School Movements

The first teachers to identify with and build the early childhood profession in the United States were kindergarten and nursery school teachers. The first kindergartens in the United States were established in the second half of the 19th century along with kindergarten teacher training schools.

The nursery school movement followed in the early 1900s. Rather than an identity based on the kindergarten model, this movement identified itself with the broader history of day nurseries serving factory workers and immigrant families, the founding of the U.S. Children's Bureau, child labor laws, and family social services. Patty Smith

Hill convened leaders of this movement to form the National Committee on Nursery Schools in 1926. This committee became the National Association for Nursery Education (NANE) in 1929 and later the National Association for the Education of Young Children (NAEYC) in 1964. NANE members engaged in the expansion of public nursery schools during the Great Depression of the 1930s and the expansion of child care services under the Lanham Act during World War II.

Child Care Expansion, Head Start, and Rapid Growth of the Profession

After World War II, women were encouraged to leave the workforce. Participation in full-day child care dropped, and the majority of teachers who remained in the profession worked in part-day preschools. Growth was slow during the 1950s but revived with the advent of Head Start in 1964 and the expansion of child care services in the 1970s and 1980s, fueled this time by women's return to the workforce, an increase in the number of single-parent families, and welfare reform policies requiring parents to participate in training or jobs in order to receive benefits.

The early childhood profession maintained its roots in child development and the needs of the whole child, rather than in specific early care and education services or models. During this 50-year period of structural change and growth in the field of ECE (1950–2000), an increasingly diverse workforce dispersed across kindergarten, part-day preschool, child care, and Head Start identified with a shared early childhood profession and its professional association. NAEYC membership grew from 1,000 in 1956 to 6,000 in 1966, to 28,000 in 1976, and to 62,000 in 1989, and reached its current peak of 100,000 members in 2000.

Brain Research, School Reform, and the Growth of Prekindergarten

The evolution of the early childhood profession continues today. Studies of early literacy and brain research promoted new government and foundation

investment in accreditation, quality rating and improvement systems (QRISs), and publicly funded prekindergarten. The current focus on the role of high-quality preschool programs in preparing all children for school entry and success has increased public awareness about the continuum of learning that occurs from birth through age 8 and the need for early childhood professional preparation and state licensure policies to bridge this continuum.

Current Status of the Profession

Professional Standards and Accreditation of Preparation Programs

One of NANE's first publications was the 1929 *Minimum Essentials for Nursery School Education*. During the 1980s, NAEYC developed a series of widely adopted guidelines and standards. These included guidelines for professional preparation in associate degree, baccalaureate, and post-baccalaureate programs (1981–1984); a position statement titled *Developmentally Appropriate Practice in Early Childhood Programs Serving Children From Birth Through Age Eight* (1986); and a code of ethical conduct (1989).

NAEYC's standards for professional preparation were adopted by the National Council for Accreditation of Teacher Education (NCATE) in 1983 and are used today as state standards for approving teacher education programs leading to state early childhood teacher licensure. NAEYC established the Commission on Early Childhood Associate Degree Accreditation in 2006, filling a gap in professional accreditation of teacher preparation.

Professional Credentials

Very little professional preparation is required before employment in child care centers and homes. Instead, state child care policy has focused on defining competencies for the early childhood and school-age child care workforce, creating state child care credentials linked to clock hours of training in core competency areas, and building professional development registries. In the P–12

school sector, state policies clearly require professional licensure with at least a bachelor's degree though few states require early childhood specialization in the early grades.

Two national credentials recognize teachers with early childhood specialization at different points in their careers. The Child Development Associate (CDA) credential recognizes individuals who demonstrate entry-level competencies and can be earned while completing high school. The Early Childhood Generalist certificate offered by the National Board for Professional Teaching Standards (NBPTS) recognizes accomplished early childhood teachers who have at least three years of practice as a licensed professional and demonstrate advanced professional knowledge and skills.

Professional Membership Associations

Early childhood professionals join multiple professional associations. The National Association for the Education of Young Children (NAEYC) is the largest, representing all those who work directly with young children from birth through age 8 as well as early childhood teacher educators, program administrators, advocates, researchers, and policy makers.

Other professional associations represent specialized roles within the early childhood profession. The National Association of Early Childhood Teacher Educators (NAECTE) and Associate Degree Early Childhood Teacher Educators (ACCESS) represent teacher educators. The National Association of Early Childhood Specialists in State Departments of Education (NAECS-SDE) represents state education agency staff with responsibility for early education.

A number of related professional associations have early childhood members, interest groups, or divisions. These include the National Association for Family Child Care (NAFCC), the Association for Childhood Education International (ACEI), the Council for Exceptional Children (CEC) and its Division for Early Childhood (DEC), and the American Montessori Society.

Ethnic, Cultural, and Socioeconomic Diversity in the Profession

The profession faces challenges and opportunities related to its national history and the increasing diversity of the U.S. population. All early childhood professionals need to develop the commitment, knowledge, and skills to support the greater cultural, linguistic, and ability diversity present in today's classrooms. There is also a need to attract, welcome, learn with, and learn from a more diverse teaching profession that better reflects the population of children and families served.

Community colleges offer access to higher education and the profession for currently underrepresented groups. Comprehensive scholarship programs such as Teacher Education and Compensation Helps (T.E.A.C.H.) demonstrate that the educational level of the child care workforce can be raised and turnover rates reduced through strategic investments. Raising the educational level of center- and home-based child care teachers benefits the children they serve, increases identification with the profession, sustains a lifelong career, and can increase ethnic, cultural, and socioeconomic diversity in the profession as a whole.

Initiatives to Raise the Profession's Status

Low wages and high turnover are prevalent in the child care sector of the profession and impact program quality. The Worthy Wage Campaign initiated in 1991 advocated for higher compensation for child care staff and continues today as an activity of the American Federation of Teachers. NAEYC and others call for compensation parity across the child care, Head Start, and P-12 sectors of the field.

The expansion of prekindergarten and support for early childhood specialization for early-grade teachers has potential to lift the public status of the profession. Recent New America Education policy briefs by Laura Bornfreund and colleagues recommend a shift away from kindergarten through sixth-grade schools and toward a reorganization of schools, teacher preparation, and teacher certification to bridge the continuum of early childhood education from birth through age 8 or third grade.

Indicators of Identification as an Early Childhood Professional

NAEYC preparation standards identify five key elements of professionalism: (1) identifying and involving oneself with the field; (2) knowing and upholding professional standards and ethical guidelines; (3) engaging in continuous, collaborative learning to improve practice; (4) integrating knowledgeable and reflective perspectives on the field; and (5) engaging in informed advocacy for children and the profession.

Indicators of identification as an early childhood professional include attainment of professional degrees and other credentials, ongoing professional development, engagement in professional associations and peer networks, a commitment to uphold professional standards in everyday practice, long-term commitment to the field, and participation in advocacy activities.

Specialized preparation increases identification with the profession. Current and future teachers of children birth through age 8 who join early childhood professional associations and pursue early childhood degrees and credentials make a powerful statement of identification with the profession.

Conclusion

The early childhood profession has grown from a small group of teachers inspired by the kindergarten movement to a very large profession that must navigate shifts in public funding, regulation, and support. Early childhood teachers, professional associations, and policy advocates will all play a role in defining the early childhood profession during the era of prekindergarten expansion. In the meantime, early childhood teachers across the child care, Head Start, and PreK-3 sectors of the field appear to be identifying with the early childhood profession.

Alison Lutton

See also History of Early Childhood Education in the United States; Paraprofessionals; Policy and Early Childhood Education; Standards

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IMAGINATION

Imagination contributes to the development of children in many ways. In fact, there are numerous lifelong benefits to children's early experiences with imagination. The benefits of imagination are cognitive, social, and emotional. Imagination supports children's creativity, for example, as well as their problem-solving skills and their capacity to anticipate what may happen in the future. With its connection to the capacity for creative thinking, imagination is also involved in adaptability and health, and eventually may manifest itself in innovation and even entrepreneurship. During early childhood, imagination allows children to explore by using counter-factual thinking and fantasy. Perhaps most clear is the role of imagination in children's pretending and play. Not surprisingly, then, imagination is directly related to learning and development. Recall here that the benefits are

cognitive, social, and emotional. Children develop social skills and develop emotional maturity, as well as problem-solving skills, when they have adequate time for imaginative play.

Imagination Defined

Imagination is typically defined as the capacity to transcend reality. This implies a connection to creativity, though creativity is more than just imagination. Creativity requires a connection to reality, as well as originality. The transcendence of reality that is provided by imagination can lead directly to originality, but the "standard definition" of creativity holds that all creative things are both original and effective. The transcendence of reality would be very helpful for finding original ideas and options.

Imagination also differs from creativity in that it peaks in early childhood. Certainly, older individuals can use their imagination, but not to the degree that children rely on theirs. The Swiss developmental psychologist Jean Piaget tied imagination to the *preoperational stage of development*. For Piaget, the preoperational stage was second in the progression to maturity. The first stage in his view was sensorimotor; the second, preoperational; the third, concrete operational; and the fourth, formal operational. There are stage theories that propose fifth or sixth stages, but what is most relevant is that imagination is not apparent the first few months of life, when a child relies mostly on reflex and thinking concerns sensation and perception, but then it blossoms.

In fact, Piaget believed that the capacity for imagination probably peaks at around age 4 or 5 years. At that point a child supposedly can be entirely immersed in an imaginative world. The child may not recognize the difference between an imaginary world and reality. Children sometimes believe in their imaginary world and believe that it is reality. The implications of this are quite clear: Children should be allowed to engage in imaginative play, given all of the benefits (e.g., learning and problem solving) but at the same time should be encouraged to recognize the distinction between

what is imaginary and what is reality. Stage theories suggest that children are not capable of making this distinction when they are still in the earliest part of a preoperational stage of development, but they should be given experiences and feedback so that when they are ready to distinguish fantasy from reality, they will have practice and reason to do so.

Imagination and Learning

Most cognitive developmental psychologists, including Piaget, tie the imaginative capacity to learning. Piaget did this by connecting imagination with assimilation. For Piaget, authentic learning is a matter of adaptation. Adaptation in turn involves two subprocesses: assimilation and accommodation. In this view, assimilation occurs when the child experiences new information but does not fully understand it. To understand and adapt, the individual alters the information as it is processed such that it will in fact fit into his or her cognitive system. That allows the child to actually process and think about new information that is not fully understood. The second subprocess, accommodation, occurs when there is understanding and the child changes his or her cognitive system in order to take the new information into account.

In this manner, assimilation and accommodation work together, the end result being adaptation. Adaptation is a form of authentic learning and differs from the more superficial memorization. Memorization can occur when an individual merely records given information but does not fully understand it. For Piaget, this happens quite frequently and is a problem with many educational efforts, because memorization does not indicate that the individual's cognitive system has adapted in a meaningful way. If the individual's cognitive system has in fact adapted, then there is authentic learning, which generalizes and will be retained. Note the implication here for education and all of learning, as well as the connection between assimilation and imagination.

Mature imagination probably works along with other cognitive capacities. In fact, this was the thrust of Lev Vygotsky's theory of development.

Vygotsky described maturity as an increased complementarity of reasoning and logic with the imaginative capacity. For Vygotsky, well-synchronized imagination and reasoning should not be expected until well into adolescence. Vygotsky also felt that social context was quite important for imagination and that the coordination of imagination with reasoning was vital for true creativity.

Imagination in Childhood Setting the Stage for Adulthood

Imagination is often active when a child plays, but it also contributes to pretending and fantasizing, and in what may be its most sophisticated and mature form, in *worldplay*. This is apparent when the child constructs a detailed and elaborate context—an entire imagination world—in which he or she may explore and invent. Worldplay sometimes lasts into adulthood, though this probably depends on the child's worldplay: A child who frequently experiences worldplay is more likely to continue to explore it during adulthood than a child who rarely if ever experiences worldplay. Adult worldplay is also the most common in unambiguously creative adults. They are unambiguously creative in that they do things that are socially recognized as highly original and effective. It is possible that the use of imagination during childhood, including the experience of worldplay, exercises creative talents. For whatever reason, there seem to be lifelong benefits to imagination.

Worldplay is different from other imaginative activities. It involves specific individuals who are usually entirely imaginary and it must persist over time. The world or scenario imagined must be a place that is visited and revisited. Last, and most obviously, worldplay involves a place that is imaginary. It is different from an imaginary friend.

A great deal of research supports the idea that there is a correlation between an adult's capacity to use imagination in an effective way, perhaps for solving problems or as some sort of catharsis, and early opportunities for imagination. These opportunities may allow imaginative play or interacting with an imaginary friend or an imaginary world.

Very likely, children first learn to transcend and transform reality by playing. There are different kinds of play (social, solitary, parallel), but the critical one for imagination is pretend play. In a sense, pretend play is a form of practice. It exercises the imaginative capacities as well as specific skills, which might involve problem-solving or even social situations. Children can explore and even simulate possible experiences in their imaginary play. Longitudinal research by Sandra Russ suggests that play has both cognitive and affective benefits and that these set a foundation for lifelong creative capacities.

Given that imagination represents some transcendence or transformation of reality, an important question involves how imagination can be coordinated with realistic thinking. Clearly, children should not just be imaginative or they would be completely out of touch with reality. At the same time, given all of the benefits of imagination, it is important that they retain the capacity to use their imagination. This would allow some sort of balance of imagination and practicality, which would be an ideal for the mature individual. It might be a kind of coordination where imagination is used but practical and realistic thinking then occurs in some sort of recursive cycle.

Not surprisingly, some of the most recent work on imagination suggests that what is very important is to exercise *discretion*. Discretion is defined as a kind of mindful decision making, and in this view, children retain the capacity to use their imagination, but at the same time are able to exercise discretion. It is mindful, discretionary imagination. These children know when to be creative and pretend and also when to be practical and realistic.

Measurement of Imagination

There are various measures available for research or developmental assessments. Sandra Russ's play scale is very reliable and has demonstrated to offer good predictions, and Thomas Ward, Merrill Patterson, and Cynthia Sifonis have a task called the *alien test* where individuals can be asked to imagine how an extra-terrestrial being would look and how it would survive on Earth. They are able

to draw and describe these aliens. María José Pérez-Fabello and Alfredo Campos also describe a creative imagination scale that has demonstrated good reliability. Research by Mark A. Runco employs several different tasks, adapted from the creativity research such that they target transformational capacity. A "visual" test, for example, presents a figure to the child and asks him or her to name all of the things it could be. The figure is abstract—just a simple line drawing—so all kinds of different ideas can be generated. Transformation is assessed when the child finishes listing ideas but is then asked to imagine the same figure upside down, or turned to the side. The child is also told to "imagine you are above it, looking down," or what would you see if it was huge? Or very small?"

These measures of imagination are being refined in current research. No doubt our understanding of children's imagination, its developmental trajectory, and functions will continue to be explored. The benefits of this line of research are numerous and profound.

Mark A. Runco

See also Creativity; Play, Benefits of; Play, Nature of; Play and Early Childhood Education; Social Play and Cognitive Development

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IMMIGRANT CHILDREN

An immigrant is someone who leaves one country to live in another on a permanent basis. First-generation immigrants are those who were born outside the United States, and second-generation immigrants are those who were born in the United States or its territories. This entry discusses the demographic characteristics of immigrant children and ways to support them.

The U.S. Census Bureau divides children into two groups by nativity: children born to native parents and those with at least one foreign-born parent. In this categorization, immigrant children include both foreign-born children with foreign-born parents and native children with at least one foreign-born parent. In government and scholarly reports, the term *immigrant children* refers to those who have at least one foreign-born parent, even though most of them are U.S. citizens.

Immigrant children are the fastest-growing group of children in the United States. This changing demographic reality presents both challenges and opportunities. Education, as social commentators, historians, and the courts have noted, plays a

pivotal role in developing and maintaining the fabric of American society. For example, the U.S. Supreme Court in *Plyler v. Doe* (1982) reviewed a Texas statute that denied children whose parents came to the country illegally the right to an education. The Court asserted that an education, the most vital civic institution for preserving our democracy, “provides the basic tools by which individuals might lead economically productive lives to the benefit of us all” (*Plyler v. Doe*, p. 221). The rise in the number of immigrant children in communities and schools in the United States provides both challenges and opportunities in terms of how to effectively educate them.

Demographic Characteristics of Immigrant Children

According to the U.S. Census Bureau, about one in four children under the age of 18 in the United States lived with at least one foreign-born parent in 2014. The vast majority of these young children in immigrant families are U.S. citizens and only about 3% to 5% of them are foreign born or first-generation immigrants, according to the Census Bureau. According to Child Trend Data Bank, the majority of immigrant children, as of 2014, are of Hispanic origin (55%), while a growing number are Asian (16.9%). Most of the remaining immigrant children are classified as non-Hispanic White (16.1%) or non-Hispanic Black (8.5%). Divided by generations, first-generation immigrant children were more likely to be Asian, non-Hispanic White, or Black than second-generation immigrant children, and the second-generation immigrant children are more likely to be Hispanic than first-generation immigrant children (55% and 40%, respectively).

This young population of immigrant children is most likely to have parents who are American citizens, to have Hispanic origins, to live in poverty without health insurance, and to have had less access to preschool. The factors of poverty, lack of preschool education, and potential poor health from not receiving ongoing health care from prenatal care to age 8 create challenges for immigrant children's success in existing educational systems.

Immigrant Children as English Language Learners

Many children in immigrant families use a language other than English at home. A significant portion of immigrant children are English language learners (ELLs) or dual language learners (DLLs: those who are learning English as they learn their home language) and the matter of English language learning poses a challenge to many of them. The extent of this challenge is seen in the numbers of students who are categorized as ELL for instructional purposes. According to the National Center for Education Statistics, in 2011–2012, about one in 10 (9.1%, 4.472 million) students in U.S. public PreK–12 schools were classified as ELL. The top five languages spoken by students learning English are Spanish, Chinese, Vietnamese, Arabic, and Hmong. Three-quarters of ELL students speak Spanish. According to Dale Russakoff (2011), a majority of ELL students are in the elementary grades and 40% of them are 3- to 8-year-olds.

According to Katrina Fortuny, Donald Hernandez, and Ajay Chaudry (2010), among children under age 8, the share of immigrant children was higher among younger children than older children, 60% of young children in immigrant families have at least one ELL parent, and 34% live in linguistically isolated households, in which all adults speak a language other than English. In addition, according to Fortuny, Hernandez, and Chaudry, 27% of young children ages 5 to 8 in immigrant families were DLLs in 2007–2008; among 5-year-olds, 37% were DLLs.

Supporting Immigrant Children

Family involvement is a critical component in immigrant children's success in school and society. Teachers are optimally positioned to act as mediators among the children, families, and school systems. There is a growing need for preparing teachers to develop necessary knowledge, skills, and dispositions to positively and meaningfully interact with immigrant children and their families. Despite ongoing efforts to prepare educators to be culturally competent professionals, practitioners

have identified a need for professional development in how to support immigrant children and their families. According to the National Center for Family and Community Connections with Schools, educators need to respect the cultural values of families, create warm environments, promote positive interactions and ongoing communication, and facilitate accommodations for family involvement such as transportation, translators, and translated documents. Understanding immigrant children's sociocultural and linguistic experiences and their challenges, valuing their home language and culture as assets, and sustaining strong home–school–community partnerships are essential components of supporting immigrant children.

Eun Kyeong Cho

See also Cultural Competence; Dual Language Learners; Dual Language Learners, Strategies for; Dual Language Learners and the Development of Self-Regulation; Immigrant Families and Early Childhood Education

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IMMIGRANT FAMILIES AND EARLY CHILDHOOD EDUCATION

According to the U.S. Census Bureau's 2013 American Community Survey, 25% of children under age 6—a total of nearly 5.8 million children—either were immigrants themselves (5%) or were

native born but had at least one parent who was an immigrant (95%). In some states, such as California, these first- or second-generation immigrant children comprise closer to half of all children under age 6. Given the robust evidence that high-quality early childhood education (ECE) programs can boost children's school readiness, there is growing attention paid to the opportunities for accessing such programs on the part of immigrant children and their families. This entry briefly describes the patterns of ECE use and quality for immigrant children, summarizes the evidence of ECE effectiveness for immigrant children, and addresses barriers to ECE access and care quality.

Patterns of Care Use and Quality

As a group, immigrant children are more likely than their native-born counterparts with native-born parents to be living in poverty, with parents who have low levels of education, and to be in a linguistically isolated household where no one over age 14 speaks English "very well" or "well." Such circumstances, as well as other stressors, place many children in immigrant families at risk of not being ready for school when they enter kindergarten, with consequences for their success in the elementary grades and beyond.

While there is great potential for high-quality ECE programs to address school readiness gaps, research using a variety of U.S. data sources consistently demonstrates that immigrant children under age 6 are less likely to participate in formal center-based ECE programs prior to kindergarten entry compared with non-immigrant children. Empirical studies indicate that there is variation across immigrant subgroups defined by country of origin in the patterns of ECE participation. However, much of the gap between immigrant and native children in care use can be explained by a few factors including poverty status, parental education, number of parents, and Hispanic ethnicity.

In terms of the nature of the care and early learning settings, there is evidence that those immigrant children who do participate in formal early learning programs often do not experience the

high-quality environments that support healthy cognitive, social, emotional, and physical development. Programs also may not be equipped to provide care and learning supports that are culturally and linguistically appropriate for the needs of immigrant children.

Evidence of Preschool Impacts for Immigrant Children and Families

An extensive literature documents the short- and long-term benefits from participation in high-quality early learning programs from birth to kindergarten entry, especially for children at risk of starting out in school behind and staying behind. For this reason, we might expect that the same would hold for at-risk immigrant children as well. Increasingly, there is evidence of the benefits from ECE participation specifically for immigrant children. For example, a quasi-experimental evaluation of Oklahoma's universal preschool program demonstrated favorable effects on school readiness for Latino children and for children whose parents spoke Spanish at home. Observational studies based on the Early Childhood Longitudinal Study-Kindergarten Cohort offer further suggestive evidence that high-quality early learning experiences can boost school readiness for immigrant children.

There is less evidence, to date, of the potential longer-term impacts of ECE programs specifically for immigrant children and of the importance of program quality—especially instructional supports for English language learners (ELLs)—in maximizing developmental gains. Rigorous evaluations point to the effectiveness of alternative approaches to language instruction, such as two-way bilingual immersion—in which students learn in both English and another language—compared to monolingual English immersion—in which instruction is solely in English. Another gap in our knowledge is the benefits for immigrant parents of ECE participation. Early care and learning programs offer opportunities to build community and to encourage and model parent engagement that can carry over to the K–12 grades, to provide connections to other community-based resources, and to support parental employment.

Identifying Barriers to Access and Use

Qualitative and quantitative research on ECE use on the part of immigrant families with young children points to a number of potential barriers—structural, informational, bureaucratic, and cultural—to more widespread participation in high-quality ECE programs. The relative importance of different factors may vary across different immigrant subgroups and may change over time as children age. Structural barriers include affordability, availability, and access to care—factors that affect disadvantaged families more generally. Circumstances unique to immigrant families include the fact that many parents of immigrant children are not authorized to be in the country even though their children are U.S. citizens. Employment outside the formal labor market further limits use of child care subsidies or other programs that require employer verification. Limited care options in neighborhoods where immigrant children and their families reside, transportation gaps, as well as the need for care during nonstandard hours (e.g., nights and weekends), may further constrain the care choices immigrant parents make.

Informational and bureaucratic barriers include the multiplicity of programs available to subsidize ECE for low-income children (e.g., Early Head Start, Head Start, state preschool programs, child care subsidies), the complex enrollment processes that accompany the various programs, and the need to certify vaccinations are up to date. Unique cultural factors also likely play a role in ECE choice. Within the Latino community, as well as others, research shows a preference for parental care or care in a home setting by other family members, although such preferences appear to be outweighed by the structural issues described earlier. Preferences for same-language care among some immigrant groups may necessitate family, friend, and neighbor care over formal, center-based programs.

Lynn A. Karoly

See also Child Care; Early Childhood Education; Prekindergarten; Preschool

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INCARCERATED PARENTS, CHILDREN OF

The number of children with incarcerated parents has skyrocketed in the past few decades, largely as a result of drug arrests and states' "three strikes" laws that require long-term prison sentences for a third offense. The number of women in prison went up by 587% between 1980 and 2011, rising from 15,118 to 111,387, according to the Sentencing Project. Including women in local jails, more than 200,000 women were incarcerated as of 2012. Those working with young children are likely to meet children of incarcerated parents, and can work both in the public sphere and in personal relationships to help them through their very impacted lives.

After a mother's arrest children are typically sent to live with relatives, usually their grandmother, or they go into foster care. If the father is arrested, children usually stay with their mother. If the child has to leave his or her home, the child

knows “this isn’t *my home* and it’s not my family” so he or she is likely to feel out of place and abandoned. It can help a child to visit his or her parent regularly in jail or prison, but it is rare that children of incarcerated parents visit regularly; the trip can be costly, and there may be no one who wants to take the child to visit, or the person the child is living with is too angry at the prisoner to consider helping make visits possible.

Children in families affected by imprisonment often suffer emotional stress, social isolation, difficulties in school, mood changes, regression, and health problems (notably asthma). Engagement in the arts and music can help them express their anxieties and anger, and sports can also lighten the load.

The psychological needs of these children are regularly ignored in institutions, including schools and child care centers. Often teachers and child care center staff don’t get this information while first meeting the child, and sometimes they never know. It is likely that they will be working with a child of an incarcerated parent, however. According to the Pew Charitable Trusts, 2.7 million children under 18 had a parent in jail or prison as of 2010. This represents 1 in every 28 children in the United States. For Black children, the likelihood of having a parent in prison or jail is even higher—1 in 9 Black children had a parent in prison or jail.

The San Francisco Children of Incarcerated Parents Partnership (SFCIPP), a coalition of social service providers, representatives of government bodies, advocates, and others who work with or are concerned about children of incarcerated parents and their families, developed what it called the Bill of Rights for Children of Incarcerated Parents. The bill reads as follows (SFCIPP, n.d.):

1. I have the right to be kept safe and informed at the time of my parent’s arrest.
2. I have the right to be heard when decisions are made about me.
3. I have the right to be considered when decisions are made about my parent.
4. I have the right to be well cared for in my parent’s absence.
5. I have the right to speak with, see and touch my parent.
6. I have the right to support as I face my parent’s incarceration.
7. I have the right not to be judged, blamed or labeled because my parent is incarcerated.
8. I have the right to a lifelong relationship with my parent.

There is no state in the United States where these simple, fair rights are honored in law or in everyday practice. Severe as the conditions are for a sizable portion of U.S. children, there is no public outcry on their behalf.

One policy change that could help children of incarcerated parents would be permitting parents who are no danger to their children to serve time at home, where they can continue to care for their children. Another is making sure children can see their parents regularly by supplying buses with counselors to take children to and from jail and prison visits, or pairing community volunteers to drive a child to the prison, see them through the visit, and safely return them home. These visits can often be very upsetting, but also necessary to parent–child relationships.

Early childhood educators can indirectly support children of incarcerated parents by finding ways to provide art, music, and sports experiences. Young children of prisoners often fear disclosing their story to others, experiencing shame and distrust. They may try to give the impression that they need no help from anyone. Tone matters in talking with children in pain, so speaking to the child sympathetically may make him or her more willing to talk. It is also important to know what the parent or guardian caring for the child has told the child about the parent’s incarceration.

The child with an incarcerated parent needs to know that having a parent in prison isn’t what defines him or her. If the child knows that an educator cares, is interested in his or her welfare, and will listen to what needs to be said, that will help.

Teachers can lead a discussion about missing people. The child with a parent in prison isn’t the only child who longs for someone absent—people

die, they move away, they divorce. It matters to the child of a prisoner that there are other people who miss people. He or she is not alone. Teachers can invite children to draw or paint people they miss and display this work in the classroom. Thinking with love about the people who are missed is an activity that can benefit all the children, and include them in the human story.

Sydney Gurewitz Clemens

See also At-Risk Families; Diversity in Early Childhood Education; Emotional Development; Poverty Effects; Stress and Resilience in Families

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Inclusion

See Early Childhood Inclusion

INDIVIDUALIZED FAMILY SERVICE PLAN AND INDIVIDUALIZED EDUCATION PROGRAM

Individualized family service plans (IFSPs) and individualized education programs (IEPs) are both processes and documents that reflect the American belief that young children with disabilities or developmental delays and their families can benefit from early intervention programs. These processes ensure that children and families have a right to appropriate, integrated, and even free supports in their community, regardless of the challenges experienced early in a child's life and a family's socioeconomic status.

The IFSP is associated generally with children under age 3 and their families, although states can choose to extend its use to older children. The IEP is associated with children 3 to 21 years, who are eligible for public school special education services. This entry focuses on the IFSP for infants and toddlers and the IEP for preschool populations 3 to 5 years of age. It provides an overview of the rationale for these individualized plans and information about their key components, as well as detailing the similarities and differences in the IFSP and IEP.

The Individuals with Disabilities Education Improvement Act (IDEA) was passed into law as Pub. L. 108-446 in 2004. This statute was a reauthorization of earlier versions of the IDEA. The law was originally enacted in 1975 as Pub. L. 94-142 or the Education for all Handicapped Children Act (EHA) as a federal response to Section 504 of the Rehabilitation Act in 1973, and called for free appropriate education for all children with disabilities ages 5 to 21 years. The EHA mandated public schools across the country to offer special education supports in the least restrictive environments for learning to children with any type or severity of disability. Individual states responded in subsequent years with state laws to reflect the federal requirements that included the use of an IEP.

Multiple reauthorizations of IDEA have occurred since 1975, with Pub. L. 99-457 in 1986 being the most significant for children under the

Table 1 Comparison of IFSP and IEP Components

	<i>IFSP</i> (Birth to Age 3 Years)	<i>IEP</i> (Ages 3 to 5 Years)
Eligibility	Multidisciplinary assessment, with parent consent, confirms child's developmental progress/delays, and/or a review of medical records confirms diagnoses and/or conditions highly associated with delays and disabilities. Assessments may be from one or multiple agencies but results must reflect state criteria for eligibility. At states' discretion, infants/toddlers at risk for delays due to environmental factors may be eligible.	Assessment, with parent consent, of <i>child's educationally relevant developmental skills for school and social success</i> . Team assessments and document reviews are completed by <i>public school professionals</i> who consider state eligibility criteria for students with disabilities.
Present Abilities	IFSP statement of child's abilities across developmental domains of cognition, communication, social-emotional, adaptive, and physical development including vision, hearing, and health. Information based on objective data from interview, observation, or direct testing and clinical opinion.	IEP statement of child's present levels of pre-academic achievement and functional performance and how disability influences participation in preschool-relevant activities. Information based on observation, interview, and/or direct testing of child's abilities.
Strengths, Concerns, and Needs	IFSP statement of family's and child's strengths and needs based on child assessments <i>and family-directed assessment of family routines, resources</i> , priorities, and concerns in meeting child's developmental needs.	IEP statement of child's developmental and pre-academic strengths and needs, and parental concerns and priorities for their child's education.
Desired Outcomes/Goals	IFSP listing of measureable desired outcomes expected <i>for the child and the family</i> . Functional outcomes <i>should reflect family concerns</i> and not a child's failed test items.	IEP listing of measureable annual goals, and possibly short-term objectives, for academic and functional needs that <i>target student's access to and progress in the curriculum for all children</i> . Goals should <i>reflect functional challenges associated with disability and educational success</i> and not simply child's failed pre-academic test items.
Progress Monitoring	IFSP-documented criteria for determining outcome achievement, and the timeline and measure for checking progress.	IEP-documented criteria for determining goal achievement and the timeline and measure for checking and reporting progress to parents.
Supports and Services	IFSP listing of <i>supports and services, available at no cost to family or on a schedule of sliding fees, to meet the needs of child and family</i> . Can include services from education, health, and social service agencies as well as informal networks and resources.	IEP listing of <i>free public school special education and related services</i> (necessary program modifications, material adaptations, and/or special instruction or supports), provided to/for the child, by classroom or consulting teachers and specialists.

Note: Italicized words highlight key differences.

(Continued)

Table I (Continued)

	<i>IFSP (Birth to Age 3 Years)</i>	<i>IEP (Ages 3 to 5 Years)</i>
Duration/ Intensity/ Frequency	IFSP-documented dates for the beginning and duration of each professional service; includes how often, how much.	IEP-documented dates for the beginning and duration of each school service/support; includes how often, how much.
Learning Environment	<i>Natural environments</i> should be used for advancing children's development. This would be home and community settings typical of same-age peers who have no disability. IFSP must include justification when supports cannot be provided in natural learning environments.	The <i>least restrictive environment (LRE)</i> should be used to support child's participation and learning in an education curriculum with his or her peers to the maximum extent possible for satisfactory learning. This may require settings with variable ratios of disabled to nondisabled children. IEP must include justification when child will not participate in fully inclusive early childhood programs and activities.
Providers	IFSP listing of <i>persons</i> responsible for individual supports, as well as persons or agencies responsible for payment of professional IFSP services.	IEP listing of <i>public school teachers, specialists, and persons</i> responsible for implementing IEP services.
Coordinator	Families are entitled to a <i>services coordinator</i> whose responsibilities include documenting meeting discussions into an IFSP and ensuring family access to IFSP-specified supports/ services. This person <i>may have a dedicated role as coordinator</i> or a blended role on the IFSP team as both a provider of services and services coordination.	A <i>case manager</i> is designated from among those providers listed on the IEP for delivery of special education or related services. The case manager acts as the family's primary contact and ensures parents receive progress reports and meeting notices, and their concerns are addressed in IEP discussions and documents.
Consent	Parents must give consent for IFSP services to be implemented. Parents are under no obligation to agree to recommended services nor continue services outlined in the IFSP. Written request to discontinue services does not preclude later reevaluation and development of a new IFSP.	Parental consent is necessary for implementation of any IEP services. Parent is not obligated to agree to recommended special education and related services nor continue such supports once initiated. A parent's written request for discontinuation does not prevent later request for reevaluation and IEP development.
Transitions	Families can expect a supported transition of relevant services <i>from IFSP community agencies to public school IEP services</i> if the child continues to need them at age 3 years. Steps in transition process should be <i>outlined in IFSP at least 6 months in advance</i> . At parent request, service coordinator can ensure <i>IFSP representation at initial IEP meeting</i> .	IEP case manager can assist parent and receiving teachers in planning <i>transition to kindergarten</i> , should the child continue to need special education.

	<i>IFSP (Birth to Age 3 Years)</i>	<i>IEP (Ages 3 to 5 Years)</i>
Regular Reviews	The IFSP progress must be <i>reviewed every 6 months</i> , or more often if situations warrant or family requests it. In addition, a meeting must be held <i>at least annually to evaluate the need for continued or revised IFSP</i> for child and family.	The IEP must be <i>reviewed at least annually</i> to determine if goals are being met, or more often if the situation warrants or parent requests it. <i>Every 3 years a full review, including reevaluation</i> of special education eligibility, is required, <i>unless</i> parents and IEP team agree reevaluation is unnecessary. Reevaluation for kindergarten supports is not necessary in all cases.
Meetings	IFSP meetings are to be held in places and at times convenient for the family. <i>The IFSP meeting may not be held without the family.</i>	Steps must be taken to ensure one or both parents are present at IEP meetings. Meetings are scheduled at mutually agreed-upon times and places or use conference telephone calls or webcasts to engage parents. <i>If neither parent can attend, the district can proceed without them</i> but must document all efforts to include the parents.
Meeting Participants	IFSP meetings must include at least: Child's parent(s) Family members at parent request Family/child advocate at parent request Services coordinator Persons involved in conducting evaluations Persons involved in providing services	IEP meetings must include at least: Child's parent(s) Others at invitation of parent or district Family/child advocate at parent request Child's primary teacher, be it public school preschool, Head Start, day care, etc. Case manager Persons involved in conducting evaluation Special education teacher or related school provider <i>Representative of school district</i> who can commit district funds for special education and related services
Calendar of Services	IFSP services are <i>to be provided year-round without interruption</i> in intensity or qualified providers and not modified for any reason unrelated to the child's needs (e.g., service provider availability or scheduling).	IEP services are provided only during a school-year calendar. Extended school-year services (breaks, summers, or extended day) must be justified by the IEP team as necessary to prevent loss of critical skills and sustain child's educational progress.

age of 5 years. The 1986 IDEA Amendments established section 619 to Part B of the law, lowering eligibility for free and appropriate education to children 3 years of age. These amendments also

added a section (now Part C) dedicated to requirements for states that chose to coordinate services for children birth to age 3 with disabilities or developmental delays and their families. This part

of the law viewed the IEP as inappropriate for this age group, since the concerns and needs for this very young population focused on the children's development and the families' abilities to meet their children's developmental needs, and successfully access and integrate community resources from agencies and providers independent of or in partnership with public schools. An IFSP was deemed a more appropriate process and document since it highlighted the partnership roles families would play with professionals to address family-identified needs for the *family* in order to influence children's developmental trajectories and eventual school readiness and social competence.

Desired Child Outcomes of IFSPs and IEPs

The U.S. Department of Education requires annual reports of accountability describing outcomes of early intervention programs for children with disabilities. Annually, states must report the percentage of children exiting Part C IFSP and Part B-619 IEP programs who demonstrate gains as a result of their enrollment in these services. The intent of IDEA is to have IFSPs and IEPs guide service providers and families toward desired outcomes while simultaneously addressing individual concerns and needs. Specifically, the reports must address the following child and family outcomes.

Child Outcomes

- Positive social-emotional skills and relationships
- Acquisition/use of early cognitive and communication knowledge and skills (and early literacy for preschoolers)
- Use of appropriate behavior and skill to meet own needs

Family Outcomes

- Know their rights
- Effectively communicate their children's needs
- Help their children develop and learn

IFSP and IEP Components

The IFSP and the IEP processes begin with assessment of a child's eligibility for services and then proceeds, if the parent is interested, to development of a document summarizing family and provider discussions and decisions on how to address agreed-upon desired outcomes and goals. The IFSP and IEP have some similarities but also some important differences. Table 1 outlines key components of each; italicized words highlight key differences.

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See also Developmental Disabilities; Early Childhood Special Education; Early Intervention; Special Needs

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INEQUALITY FROM BIRTH

Inequality in infant health in the United States is much higher than in similarly wealthy countries. There are large disparities in infant health by race and socioeconomic status. For example, relative to non-Hispanic White mothers, African American mothers are 90% more likely to have a low birth weight birth (defined as less than 2,500 grams) and 70% more likely to have a preterm birth (defined as less than 37 weeks gestation). Unmarried mothers and those with low education levels have higher rates of adverse birth outcomes relative to their married and more educated counterparts.

Disadvantage in early-life health often translates into poor adult outcomes. Therefore, policies that target early-life conditions, especially among vulnerable populations, may ameliorate intergenerational persistence of economic disadvantage and reduce inequality.

Lasting Impacts of Early-Life Health

The link between early-life health and adult well-being was first formalized by David J. Barker, a British physician and epidemiologist, who coined the phrase “the fetal origins hypothesis.” Barker argued that adverse *in utero* conditions can “program” a fetus to have metabolic characteristics that are associated with future disease. Economist James Heckman has further argued that there are important dynamic complementarities between investments in children at different stages of development. This means that initial health endowments raise the productivity of investments at later ages, making it increasingly difficult to overcome initial differences in health.

A large body of research shows that *in utero* and early-life health affects individuals’ life cycle outcomes. For example, several epidemiological studies have compared cohorts who were *in utero* during the 1944 Dutch famine to cohorts who were born just before or after. These studies show that those exposed to the famine *in utero* had higher rates of obesity, cardiovascular disease, and mental illness at age 70.

Economists have looked at the effects of *in utero* exposure to other types of events. For example, one study showed that cohorts exposed to the 1918 U.S. influenza epidemic *in utero* had lower educational attainment, adult earnings, and were more likely to receive disability and welfare benefits relative to cohorts born in surrounding years. Other studies have demonstrated that increased exposure to air pollution in early life reduces high school test scores and earnings at age 30. Exposure to lead and radiation in early childhood similarly negatively impacts adult socioeconomic status. Finally, income in early life matters as well. One study shows that having access to the food stamps

program at birth improves health and measures of economic self-sufficiency in adulthood.

Other research has shown that differences in early-life health measures translate into differences in adult outcomes. Birth weight is seen as a summary measure of health at birth, and one study comparing birth weight differences between twins showed that a 10% increase in birth weight increases adult full-time earnings by 1%.

Interventions

The United States has a number of policies that affect early-life health. The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) serves low-income pregnant women and children through age 5, and provides benefits that can be used to buy nutritious food. Recent research shows that access to WIC during pregnancy decreases the probability of a low birth weight birth by 8% to 14%.

Family leave policies provide time off from work so that new mothers can prepare for childbirth and stay home to care for their newborns. These policies are important because most low-wage women do not have access to any employer-provided paid time off from work. Although the United States does not have a national paid family leave policy, the 1993 Family and Medical Leave Act (FMLA) grants 12 weeks of unpaid job-protected leave to eligible workers. Research shows that the introduction of FMLA led to improvements in infant health among children of highly educated and married women, who could afford to take unpaid time off work. Paid family leave, however, can improve early-life health among disadvantaged populations. One study shows that paid maternity leave benefits offered through the Temporary Disability Insurance (TDI) system in five states since 1978 reduced the incidence of low birth weight and preterm births among minority and unmarried mothers. California’s 2004 paid family leave program has been shown to increase breastfeeding rates among unmarried and minority mothers with low education levels.

Finally, home visitation programs are designed to provide low-income parents with education about parenting, health, and resource availability through regular home visits by trained staff early in the child's life. One particularly successful program is the Nurse Home Visiting Partnership (NHVP), which targets at-risk mothers and focuses on teaching them how to assess infant health and create safe households. Randomized evaluations of the NHVP indicate that participating mothers are 63% more likely to breastfeed, and their young children experience fewer health problems. The program also has lasting effects on later cognitive ability: Children exposed to NHVP in infancy score 26% higher on achievement tests at age 9 than unexposed children. The success of NHVP is attributed to its highly trained staff and its targeted design; larger-scale interventions with less skilled home visitors have been shown to be less effective.

In sum, mounting evidence points to the lasting consequences of early-life health on adult well-being. Reducing inequalities in infant health may therefore be an important avenue for addressing broader economic inequality. Policies that have been shown to improve early-life health among disadvantaged children include WIC, paid family leave, and nurse home visiting programs.

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See also Early Intervention; Home Visits; Neonatal Health and Development; Nutrition

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INFANT AND TODDLER PROGRAMMING

The term *infant and toddler programming* refers to approaches to care and education for infants and toddlers, typically within center-based child care programs. It has gained increasing interest over the last 30 years in the field of early childhood education as the use of child care for infants and toddlers has increased significantly, targeted programs such as Early Head Start and Educare have been created and implemented, and brain and developmental research highlighting the importance of experiences and relationships in the first 3 years of life has been disseminated.

Determining the best way to design child care programs for infants and toddlers requires taking into account the unique developmental aspects and needs of this age group. These needs include developing a secure attachment to a primary caregiver, ability to assert autonomy while maintaining connectedness to a caregiver, exploration of the environment, and family involvement and partnership with care providers. It is through relationships with trusted caregivers that infants learn and grow. Thus, a key component in developing programming for infants and toddlers is defining the ways that relationships and interactions between caregivers and children will be facilitated and sustained. This entry examines a few current models of infant and toddler programs, and presents and discusses current issues in this field.

Approaches to Infant and Toddler Programming

Developmentally Appropriate Practice (DAP)

DAP was designed by the National Association for the Education of Young Children (NAEYC) as a set of principles and guidelines to inform practice in early childhood education instead of a specific approach to programming. However, its principles are pervasive in the field. DAP suggests that decisions about programming for any age group, including infants and toddlers, should be informed by three things: (1) knowledge of child development

generally and across domains for infants and toddlers; (2) knowledge of each child as an individual, his or her unique characteristics; and (3) knowledge of the sociocultural contexts that children grow up in, their families, values, cultural expectations, the understanding that a child is embedded in a sociocultural context even within the classroom walls. In addition, DAP emphasizes the importance of the relationship between the caregiver and child, the set-up of the environment as an important tool for learning, the opportunity for exploration and play, the importance of establishing and maintaining routines, the need for a reciprocal relationship with families, and the ways in which early care and education policies can help or hinder these programmatic needs.

Program for Infant/Toddler Care (PITC)

The PITC was created in the 1980s by J. Ronald Lally, an expert in early childhood education, and today is housed within the WestEd organization, a multifaceted agency aimed at improving education. Lally and colleagues developed the PITC in response to the increased use of center-based child care for infants and toddlers during that time in combination with the recognition that there was a marked lack in guidance for early care and education teachers on how to approach programming for infants and toddlers in child care. Lally and colleagues based the recommendations within PITC on evidence from current brain research that demonstrated the importance of early relationship quality for optimal development as well as on attachment-based theoretical perspectives.

The PITC program has been adapted and enriched by other early childhood experts since it began 30 years ago and continues to be a popular and well-respected framework for infant and toddler programming. It is widely used in Early Head Start programs in the United States and private early care and education programs. The PITC is a relationship-based approach. Its primary focus is on child care policies that facilitate relationships between teachers and children and with families rather than on curriculum, content, materials, or

traditional lesson planning. It focuses on six program policies that are essential to providing quality infant and toddler programming: (1) the assignment of each child to a primary care teacher who is responsible for attending to that child's needs, (2) small group sizes and small teacher-child ratios, (3) continuity of care that arranges for each child to have the same primary care teacher over the multiyear infant and toddler period, (4) individualized care that responds to each child's individual needs rather than attempting to fit the child into a preset schedule for daily routines, (5) cultural continuity that includes a dialogue with families to create continuity between the home and child care setting, and (6) inclusion of children with special needs in the child care setting through providing appropriate accommodations.

Creative Curriculum

The Creative Curriculum was first developed as a preschool curriculum in 1978 by Teaching Strategies, a company that offers early childhood products. The original author was Diane Trister Dodge, founder of Teaching Strategies. In 1997, a version of the Creative Curriculum for use in infant and toddler classrooms was first released.

The infant-toddler version of the Creative Curriculum is used widely in Early Head Start and private child care programs. It is a comprehensive curriculum that provides lesson plans and materials for activities suggested. It focuses on daily care routines, the importance of developing teacher-child relationships, individualization of activities, and has an assessment component that provides a framework for teachers to assess children on a variety of objectives across multiple developmental domains. Additionally, the authors of the Creative Curriculum provide customers with specific alignment documents demonstrating the way in which the curriculum aligns with state early learning guidelines (these guidelines are discussed later in this entry).

Resources for Infant Educators (RIE)

RIE is an organization founded in 1978 by Magda Gerber that advocates for infant and

toddler programming based in the philosophy of care created by Emmi Pikler (the Pikler approach) and her apprentice, Gerber. This philosophy emphasizes a foundational respect for infants as competent and motivated to learn and suggests that adults should not interfere with the process of self-propelled development in infants and toddlers. Essentially, it emphasizes that the way that adults interact with infants and toddlers can encourage their self-motivated drive to learn and develop or hinder this process.

Pikler was a pediatrician during World War II and after its conclusion developed a nursery for traumatized war orphans in Budapest, Hungary. Gerber brought the Pikler approach with her to the United States when she relocated from Hungary. The approach has since evolved into what is known as RIE. The development of RIE was based more on the professional practical experiences of its creators than on specific theoretical perspectives. However, its stated values show influences from both attachment theory and constructivist theory. Additionally, its emphasis on the competent learner and environment as teacher complement well the Montessori, Waldorf, and Reggio Emilia approaches to early childhood education. The seven basic principles of the RIE approach are (1) trusting the child as an initiator of learning and as an explorer, (2) providing an enriching environment that is safe yet challenges the infant and stimulates him or her cognitively, (3) providing time for uninterrupted play, (4) allowing infants the time and freedom to interact with other infants, (5) involving the child as an active participant in all caregiving activities and routines, (6) keen observation of the infant to get to know his or her unique needs, and (7) setting clear and consistent limits for expectations in terms of guidance and discipline.

Current Issues

Formal discussion of infant and toddler programming does not come without controversy or concern over definitions. While the term *programming* is used here, another common term used for this is *curriculum*. There is hesitation by some to use the term curriculum for infants and toddlers as it

suggests an approach to teaching and learning that is developmentally inappropriate for this age group. While the term curriculum itself does not imply the programming is inappropriate, the controversy exists due to the implications of that term and the fear that attempts at “curriculum” for infants and toddlers may look too much like curriculum more appropriate for older children. Calls for increased focus on school readiness have fueled these fears in recent years.

Abundant energy in education is currently focused on overcoming current perceived obstacles to school readiness, such as limited curriculum alignment between early childhood programs and elementary school programs. Thus, in response, many states are developing early learning guidelines for infants and toddlers as well as pre-school-age children that align with state grade-level standards to improve school readiness. The standards are useful tools but can be confusing in terms of implementation through infant and toddler programming if not tied back explicitly to the unique learning needs of infants and toddlers.

While some of the models described earlier are more structured, others are more theoretical, offering more practical interpretation and flexibility to practitioners. And it is important to note that while there may be differences in terminology and structure to the approaches described in this entry, the core tenets in each are fairly similar, and they all align with the previously described critical needs for infants and toddlers: developing a secure attachment to a primary caregiver, ability to assert autonomy while maintaining connectedness to a caregiver, exploration of the environment, and family involvement and partnership with care providers.

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See also Brain Development; Center-Based Care; Child Care; Early Head Start; Infant Rooms; Toddler Rooms; Warm and Responsive Interactions; ZERO TO THREE

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Program for Infant and Toddler Care: <http://www.pitc.org>
ZERO TO THREE: <http://www.zerotothree.org/>

INFANT ROOMS

Infant rooms are spaces set up and purposely planned for the care and education of children from about 6 weeks of age to about 12 to 15 months. Infants are sometimes included in multiage groups with 1- and 2-year-olds. Infant rooms are found in full- and part-time group care settings including family childcare homes, community childcare centers, nursery and preschool programs, childcare ministries, and many community programs supporting families such as in YMCAs and family resource centers, as well to those that provide care during religious services in churches, synagogues, and mosques. High-quality care for infants in groups requires specialized expertise from a professional. Although infants are highly capable in communicating wishes and needs, it takes a skilled caregiver to understand these communications and respond appropriately. The proficient infant caregiver should be knowledgeable about the rapid

development that unfolds during infancy and understand how best to support it, and be willing to partner with families in all important decisions related to their infant's care, development, and learning.

This entry discusses group care policies, environments, and practices in infant rooms. Research supports policies and practices that promote strong, trusting relationships and environments that engage infants in interesting, meaningful play experiences.

Guiding Principles

There is no “one-size-fits-all” prescription for practice in infant rooms; many positive, respectful, relationship-based program models exist and are used for infant rooms. Regardless of what model is employed in a program, professional caregivers of infants base their actions on their own critically examined beliefs, based in reason and sound ethical and moral principles. Developmentally appropriate practice (DAP) articulates a philosophical viewpoint around which caregivers can think about how infants grow, learn, and develop, providing seven principles specifically for the period from birth to 3 years. DAP does not prescribe a model but provides a reflection point for caregivers to consider as they plan, implement, and assess work. The principles are as follows:

1. Understand there are multiple influences on development (e.g., access to health care, literacy level of family members, community resources), and growth and development must be viewed holistically, considering all domains of development (physical health and growth, cognitive development, perceptual development, small and large muscle development, social development, emotional development, and the infant's communication abilities) simultaneously.
2. Welcome all infants and their families regardless of beliefs, circumstances, needs, languages, and communication styles.
3. Enter into full partnership with families in supporting their infants, respecting families as

partners, not as clients or customers, honoring and respecting the decisions they make about their infants.

4. Be culturally responsive by being mindful of all messages conveyed to infants and their families, acting deliberately to support every infant's sense of self, including family and cultural bonds.
5. Respect infants' rights as full participants by respecting their needs and preferences, allowing choice, and supporting their overall well-being in their current daily lives as well as in preparation for the future.
6. Create and maintain a positive emotional climate, investing in all adult and child relationships with, between, and surrounding infants.
7. Engage in sensitively responsive care by remaining mindful, in the moment when communicating with infants, respond in a timely fashion to expressed needs, and "take it slow" and spend time with infants during important caregiving moments (e.g., diaper changing, feeding, rocking to sleep) and during playtime.

Caregivers need to be aware of physical/structural considerations shown to be important in infant rooms. State licensing regulations specify minimum size for infant rooms, and health and safety recommendations mandate factors such as required spacing between cribs, whether food can be prepared on site or off, records that must be maintained, and fire codes. Recommendations for group sizes and the ratio of caregiver to infants come from the field of early childhood education and have remained consistent in the United States for the past 20 years. The recommended ratio for a room with only infants is one adult for every three or four infants, and the recommended group size for infant rooms is eight or nine infants total.

Supporting Development

In infancy, the primary knowledge base comes from research in child growth and development. Skill is needed for group care providers to support

the individual needs of each infant within their infant rooms in which the developmental achievements of the first year occur at varying rates among individual infants. Developmentally, infants are working on issues of security, the need to explore, and the building of a sense of self as separate from and in relation to other people and objects in the world around them. Security is paramount for infants who need to feel they can trust their needs will be met in a timely and predictable fashion by a respectful, loving adult. The practice of assigning "primary" or "key" caregivers in infant rooms, based on the research of secondary attachment, is implemented to build a sense of security. One caregiver becomes principally, but not exclusively, responsible for a small number of infants within the group, with the goal of forming a particularly secure attachment relationship with those in that smaller group.

Infants learn about themselves and the world through exploration that occurs through the engagement of all of their senses and by moving their bodies through space. Life in the infant room must provide them experiences that allow them to see, hear, taste, touch, and smell interesting, new, and different things; and encourage them to use small and large muscles to grasp, clap, reach, slap, drop, push, pull, bang, roll, and climb, and clamber around, under, over, and through all available surfaces (indoors and outside). Materials and toys should be available that are sufficiently interesting that challenge, yet do not frustrate infants, and facilitate the development of the understanding of basic concepts such as object permanence and cause and effect.

Most important is making sure infants develop and maintain a healthy sense of self in terms of feeling they and their families are valued and respected. Infants learn important messages about caring for others and that they themselves are persons worthy of care by the way they are cared for in infant rooms.

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See also Infant and Toddler Programming; Infant Signing; Infant-Parent Relationships; Toddler Rooms; Trust

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INFANT SIGNING

Infant signing is the intentional use of specific gestures to promote bidirectional communication with preverbal children, primarily those with typical hearing. It is used as an educational tool in early childhood education settings, and as a parenting practice. It is built on children's natural tendencies to communicate with their hands prior to oral words. Infant signing promotes children's early language development, gives children a way to actively participate in care routines and behavior regulation, reduces frustration of children and caregivers, and promotes caregivers' responsiveness to children's cues.

Bridging the Infant/Toddler Language Gap

Infant signing is a supplemental and temporary communication tool used with children for whom communication is currently a challenge. This includes both typically developing preverbal children and those with communication delays. Because receptive language (comprehension) develops prior to expressive language (production), around their first birthday preverbal children begin to have specific thoughts and desires but do not have the words to communicate their increasingly complex interests, intentions, and other internal states. This language gap often results in frustration for both children and caregivers. Infant signs bridge this communication gap because infants and toddlers can use gestures—with their hands, head, and torso—to represent ideas symbolically and communicate their ideas explicitly.

Building on Natural Communication Behavior

A series of studies by Linda Acredolo and Susan Goodwyn revealed that typically developing preverbal children invent and use a few signs—or symbolic gestures—between 12 and 17 months old, and can learn many more if signs are modeled for them. Children who are not intentionally

exposed to infant signing typically invent four or five symbolic gestures on their own during the receptive–expressive language gap, just before the spurt in oral word learning. Child-invented symbolic gestures are usually “iconic” because they represent either the action performed *by* an object (flapping arms to represent bird) or actions performed *on* an object (petting motion to represent cat); they are defined as “symbolic” if they (a) are consistently used to refer to the same concept, (b) are generalized beyond the situation in which they were first learned (e.g., using a sniffing action first to refer to the rosebush in the backyard, then using it with pictures of flowers in a catalog), and (c) can represent the referent concept in its absence. Children use these invented symbolic gestures to make requests, draw caregivers’ attention to their specific interests, and elicit responses from adults. Though symbolic gesturing naturally occurs around 1 year, if infant signs are modeled consistently prior to this age, infants begin to learn them as early as 8 or 9 months. In this context, infants are capable of learning signs for many different concepts; studies have documented infant sign vocabularies of more than 60 signs, though the average is likely between 20 and 30.

Distinct From Sign Language

The specific forms of many of the infant signs taught in popular infant signing curricula come from American Sign Language, though they are often simplified to accommodate infants’ limited fine motor skills. However, the practice of infant signing is distinct from using a signed language because infant signing (a) does not involve a grammatical structure, (b) does not have a standard set of signs that have the same form and meaning, (c) is used as a supplement to oral words, and (d) is used only temporarily until children can communicate fluently with spoken language. Instead, infant signs belong to the category of communication behaviors called symbolic gestures, a type of gesture that children typically invent and use to communicate prior to oral words. The relationships of infant signs to other categories of gesture are depicted and defined in Figure 1.

Supporting Children’s Relationships and Development

Infant signing became a popular parenting and early childhood education practice after research showed that encouraging infants to use symbolic gestures promoted their language development throughout early childhood, and enhanced adult–child relationships and interactions. Some parents, educators, and interventionists fear that use of infant signs will slow oral language development because it provides children with an alternate means of communication. There is no evidence of this. Though some studies find no effect on oral language, there are no studies that find detrimental effects on language. Instead, there is evidence from experimental and quasi-experimental research that infant signing promotes oral language development as well as the qualities of adult–child interactions that promote children’s language and social skills. The practice of infant signing is consistently endorsed by parents who have used it, and by the American Academy of Pediatrics.

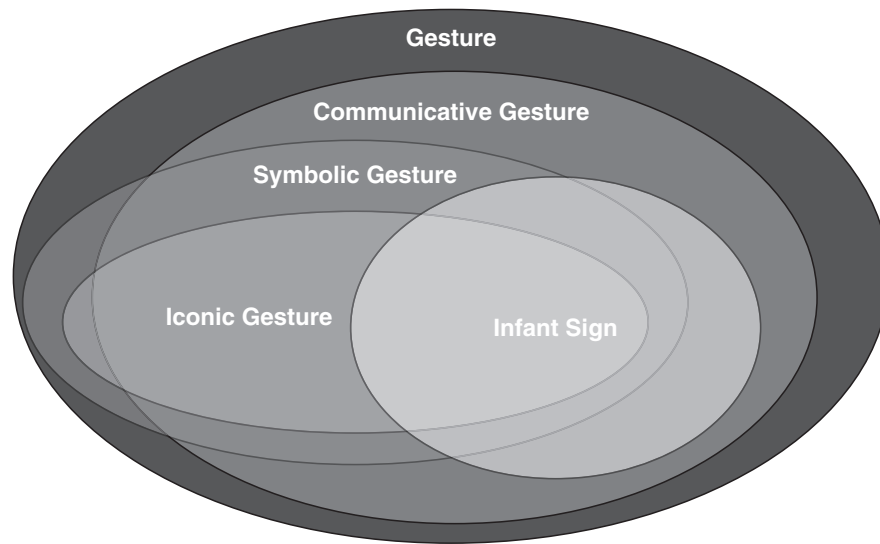
Guidelines for Infant Signing

- Begin modeling infant signs by the time children start using other gestures (e.g., pointing, waving), typically 9 to 11 months
- Teach infant signs that motivate children, tailored to children’s interests
- Embed infant signs in everyday routines and interactions
- Model infant signs consistently, whenever the concepts naturally occur
- Use infant signs with oral words so children connect words and signs together
- Respond to all child communication attempts, regardless of whether or how they perform a sign

Claire D. Vallotton

See also Communication Disabilities; Developmentally Appropriate Practice; Infant and Toddler Programming; Infant–Parent Relationships; Language Development; Language Development, Theories of; Universal Design for Learning

Figure 1 Concept Map of Infant Signing and the Other Communicative Behaviors to Which It Is Related



Gesture:	Body movement that expresses some meaning.
Communicative Gesture:	Body movement, often with hand or head, that communicates meaning, in place of or accompanying speech. Common communicative gestures in early childhood include pointing, showing an object, and waving.
Symbolic Gesture:	Gesture that consistently represents a specific referent (object or concept) in its absence.
Iconic Gesture:	Gesture that mimics the form or function of its referent.
Infant Sign:	Gesture used by infants and caregivers to communicate a specific concept; often learned in one context or routine, then generalized to others; typically capable of representing a referent in its absence; most often iconic.

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INFANT–PARENT RELATIONSHIPS

Infant–parent relationships encompass the connections between the youngest of children and their primary caregivers, including biological mothers and fathers, foster and adoptive parents, and others assuming the “parental” role. Infant–parent relationships are recognized as being of utmost significance because they serve as the

immediate context for early development. This entry provides an overview of infant–parent relationships and discusses relevant theoretical perspectives, research, and intervention, with special attention to how the construct pertains to early childhood education.

Overview

Researchers, practitioners, and policy makers increasingly emphasize the early years as foundational for later development. Infancy is characterized by a high level of brain plasticity and rapid brain development that has lasting implications for brain structure organization. Consequently, infants are especially sensitive to environmental influences. Whereas appropriate stimulation during infancy supports optimal brain development, negative experiences may be particularly detrimental.

Since infants are entirely dependent on caregivers, the significance of the child–parent relationship as a context for development is magnified during infancy. Parental behaviors vary in the degree to which they are sensitive and responsive, support learning, and encourage autonomy. The quality of interactions may directly support, or undermine, children’s short- and long-term trajectories in the domains of cognitive, language, and social-emotional development.

Theory

Developmental theories serve as the lenses through which infant–parent relationships are examined. Two especially relevant theories are described here.

Bioecological systems theory, developed by Urie Bronfenbrenner, posits that individuals develop within multilayered systems of interconnected relationships. The *microsystem*, the innermost layer of the environment, consists of the individual’s immediate surroundings, including relationships with immediate family and early childhood professionals (i.e., child care providers). Within this framework, infant–parent relationship quality is recognized to be bidirectional; parents influence their infants’ behavior, but infants, with their own sets of biological predispositions and socially

influenced characteristics, also differentially evoke responses from their parents.

While the microsystem serves as the most visible context for infants’ development, there are complex interactions with the outer system layers (*mesosystem*, *exosystem*, *macrosystem*, and the temporal dimension, *chronosystem*) that exert indirect influences. Especially pertinent to the focus of this volume, the quality of interactions *between* immediate family members and early childhood professionals, at the *mesosystem* layer, may impact infant development.

Ethological attachment theory, based on the joint work of John Bowlby and Mary Ainsworth, explains infant–parent relationships in terms of their evolutionary function. A basic premise is that infants are born equipped with behavioral repertoires that encourage close proximity to the mother, therefore providing protection from danger and promoting potential of survival to sexual maturity and reproduction, while still allowing for exploration and mastery of the environment. Attachment theory asserts that parenting contributes to predicting infant–parent relationship quality and infants’ willingness to use the parent as a “secure base” from which to explore the wider world. This relationship quality is also proposed to provide a framework (i.e., “internal working model”) for establishing other relationships.

Research

Major challenges in the study of infant–parent relationships include that the research literature has historically focused primarily on mothers and over-represents participants who are White U.S. Americans of European descent, middle-class, and from traditionally structured families. This warrants caution in generalizing the theories and findings to more diverse populations. Some have even questioned the cross-cultural validity of the basic assumptions of the widely utilized attachment theoretical framework.

However, more recent research sheds light on the construct of infant–parent relationships among diverse populations. There has been increased interest in infant–father relationships, including

among nonresident fathers, and on relationships between infants and their foster and adoptive parents. Research has also focused on better understanding parenting of infants from families who are diverse in terms of socioeconomic status, culture, and family structure.

Research results pertinent to infant–parent relationships include the following:

- Cultural background influences parenting beliefs and practices, and should be considered when studying infant–parent relationships.
- Demographic risk factors, such as poverty, poor mental health, and adolescent parenthood, can compromise parents' abilities to consistently engage in the high-quality interactions that best support optimal child development through infant–parent relationships.
- Enrollment in child care does not compromise the opportunity to form secure infant–mother attachment relationships.

Interventions

Since infant–parent relationships are viewed as vehicles to optimal developmental outcomes, early interventions designed to support children's development increasingly involve families and target infant–parent interactions. Carl Dunst, Carol Trivette, and colleagues have underscored the strengths of family systems intervention practices that emphasize respect for the roles and contributions of parents.

Susan Sheridan, Lisa Knoche, Carolyn Pope Edwards, and colleagues have developed and demonstrated the efficacy of a strengths-based, relationship-focused, parent engagement intervention called Getting Ready for promoting positive parenting and child outcomes among families with developmentally at-risk children ages birth through 5 years. Early childhood professionals participate in training and ongoing coaching to support integration of Getting Ready strategies into their practice. They focus on enhancing the qualities of the *parent–child* and *parent–professional* relationships, all in support of children's development.

Keely D. Cline

See also Attachment and Stress; Infant and Toddler Programming; Parenting Effects on Child Development

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INITIATIVE AND INDUSTRY

The life span is commonly divided into developmental stages to enable us to understand the specific needs and challenges and the unfolding of capabilities and competencies of children aligned with each stage. Early childhood, sometimes referred to as the preschool years, is designated as the period from infancy to the age of 5 or 6. The developmental period that follows is labeled middle to late childhood, extending over 6 to 11 years and approximating the primary school years, according to John Santrock.

Extending the work of Sigmund Freud, Erik Erikson conceptualized eight epigenetic psychosocial stages of development that individuals progress through during the life course, four of these encapsulating infancy to late childhood. At each of these stages, the individual is presented with a developmental task that entails a crisis or turning point resolution of which enhances healthy personality development. Erikson's first psychosocial stage, *trust versus mistrust* (0–1 year), provides the foundation of trust and security on which subsequent stages, *autonomy versus shame and doubt* (1–3 years), *initiative versus guilt* (3–5 years), and *industry versus inferiority* (6–11 years), are built. The latter two stages are the focus of this entry.

Initiative Versus Guilt

The third developmental crisis described by Erikson, initiative versus guilt, coincides with the preschool years. During this period, preschoolers attempt to explore their environments and are involved actively in taking on life tasks. Such efforts may be encouraged by parents fostering the child's initiative. As children engage with the wider social world, they are faced with demands for purposeful and controlled behavior. When inappropriate behavior is responded to harshly, feelings of guilt and anxiety may arise. Parental restriction of inappropriate behaviors triggers the child's feelings of personal responsibility and guilt. Optimum personality development is perceived to grow out of this balance between spontaneous initiative and its inhibition as a result of guilt and fear of reprisal, according to Erikson and researchers such as Janet Belsky and Candida C. Peterson.

Children strive to be persons in their own right. They exhibit abundant energy, and with enhanced motor, cognitive, language, and social skills they display initiative and move confidently into the social world. Their initiative and enthusiasm may bring them not only rewards but also guilt, which lowers self-esteem. There may also be a tendency to confuse effort and ability and display optimism about their abilities.

Many changes characterize young children's socioemotional development in this stage of early childhood. Their developing minds and social experiences produce remarkable advances in the development of their self, their emotional maturity, moral understanding, and gender awareness. In Erikson's portrayal of early childhood, the child has begun to develop self-understanding and self-recognition. Children are able to represent themselves in terms of physical attributes, material possessions, and physical activities. Later in this stage, at about 4 to 5 years, they display a more sophisticated self-understanding and begin to refer to their personal traits and emotions in their self-descriptions.

The child's self-concept begins to emerge in early childhood. Children begin to incorporate into their self-concept an awareness of how others see them, tending to accept the judgment of adults. The current research on social awareness in early childhood, for example, by Jeremy I. M. Carpendale and Charlie Lewis, indicates that children in this stage show an increasing ability to understand others.

With respect to cognitive development in early childhood, children's thinking and language skills develop significantly. Their vocabulary expands rapidly as they interact with parents, siblings, peers, and child care providers. They are also mastering a number of skills related to school readiness. Much of the theorizing on children's cognitive development comes from Jean Piaget, who maintained that children progress through a series of sequential stages in their thinking that corresponds to the *preoperational stage*. The preoperational stage is divided into the preconceptual period, 2 to 4 years, and the intuitive period, 4 to 7 years.

At the preoperational stage, children's thinking is said to be centered on their own perspective, reflecting *egocentrism*, an inability to perceive that another person's thoughts or feelings might be different from one's own. Piaget's work also highlighted the thinking pattern of *animism*, a tendency to assign attributes of living things to inanimate objects, referred to as "animistic thinking." Piaget's cognitive theory further notes the development of symbolic thought and language in preschoolers.

Preschoolers' new skills in thinking are reflected through symbolic or pretend play, according to researcher Mildred Parten. The play of preschool children is more imaginative and complex than that of toddlers. The parallel play characteristic of toddlers is replaced by more social interaction in cooperative play. Preschoolers learn rules and rituals and begin to take roles in different play scenarios and problem-solving situations. Gender-segregated and gender-stereotyped play unfolds as children tend to model behaviors of their sex, according to Eleanor E. Maccoby. Preschool play provides opportunities for exploring social roles, expressing fantasies and negative impulses, and practicing emerging cognitive skills including cause-and-effect thinking and perspective taking, state Jennifer Connolly and Anna-Beth Doyle.

As their symbolic representational skills advance, children develop language in the preoperational period, enabling them to communicate with others. In terms of moral development, there is gradual movement from reliance on outside approval to a more internalized sense of values derived from family and culture. The child gradually develops super-ego or a conscience that imposes standards for judging his or her behavior, and provides pathways to self-esteem based on self-approval.

The attachment relationship established in infancy continues to be significant for the preschool child. A secure attachment enables the child to experience the attachment figure as a secure base, according to John Bowlby, during the preschool years that often marks their initial separation from parents. As they make the transition to kin carers, play groups, child care, or preschool, preschoolers begin to learn to manage that separation.

During the preschool years, children, while embedded in the family with primary relationships with parents and siblings, begin to develop the capacity to relate to others in empathic ways. In the social and emotional domain, the key challenge for the preschool child is establishing friendships and playing cooperatively with peers. These relationships enhance their social skills, prosocial behaviors, and emotional regulation and enable development of skills in perspective-taking, sharing,

and cooperating, states Judy Dunn. Children at this stage are limited in their capacity to make judgments about right and wrong, being at the stage of "heteronomous morality" characterized by a one-sided view of right and wrong, based on expectations of parental figures, according to Elizabeth Fernandez.

Thus, early childhood represents a period in the life course when the child enters the larger social environment and becomes exposed to a wide range of adults and peers. The preschool-age child develops skills and competencies, especially through taking initiative in play activities that are crucial to the subsequent stage of middle childhood and significant in terms of later school readiness.

Industry Versus Inferiority

Erikson's fourth stage of development, industry versus inferiority, aligns with middle and late childhood, approximately 6 to 11 years. Erikson argues that through a process of identification children aspire to be like their parents. Erikson characterizes this process as the crisis of industry versus inferiority. The major psychosocial task of middle childhood is industry, the focus being on effort and achievement, and preoccupation with the ability to achieve good work. Children who are convinced of their abilities and whose competence is acknowledged by others develop confidence and positive self-regard. When children lack a feeling of competence and belief in their skills, they are likely to gravitate to the opposite state to industry, referred to as inferiority. The child is then vulnerable to developing feelings of incompetence, according to Michele Hoffnang and colleagues.

During this developmental stage, a pervasive theme is the child's sense of industry and curiosity about how things work. It is a period when children invest energy and enthusiasm in mastering intellectual, social, and physical skills. Encouragement of their creative efforts and problem solving increases their sense of industry. When such efforts are disparaged or discouraged by parents, children are likely to develop a sense of inferiority.

In the context of school, children in this age band are often engaged in competitive academic pursuits that engender feelings of superiority and inferiority. Involvement in competitive sports and the creative arts may further enhance children's capabilities and sense of achievement. The polarities inherent in this stage entail the pride and joy of accomplishment and the sense of inferiority that is a consequence of unfavorable comparison with the outcomes of peers. As a result of comparative evaluations of their performance with that of other children they develop feelings of relative superiority or inferiority with implications for their self-esteem and self-worth. It is also noted, by Susan Harter, that these realistic self-perceptions account for a decline in self-esteem during the primary school years. Self-worth and self-image (self-esteem) are perceived to be strongly linked to initiative and moderately to school performance, according to Harter and other researchers, such as Belsky and Peterson.

At mid-childhood, children show evidence of being able to evaluate their abilities and aspirations in relation to their peers, and where such evaluations are reality based their self-esteem is relatively high, according to Peterson. Scholastic performance, behavioral conduct, peer likeability, sporting skills, and physical appearance are five areas from which school-age children derive their self-esteem, states Harter. A balance is achieved with a dual focus on opportunities to display their individualistic competencies and avenues to participate in team endeavors that foster cooperation and collaboration and provide pathways to collective achievement.

Erikson maintains that most children in this period experience a mixture of self-confidence and fear of inferiority as they approach the end of middle childhood. Resolution of this crisis enhances children's motivation to achieve particular standards of excellence and optimism about their abilities. During middle childhood, focus of their learning shifts to a performance orientation that is reinforced by others' responses to their achievement. Erikson's conceptualization has influenced the development of achievement motivation approaches in educating school-age children. Self-efficacy, the belief that one

can master a situation and produce positive outcomes, is considered to be a critical factor in children's school achievement. School serves as an important context in this regard as committed teachers and positive environments reinforce children's sense of industry.

A number of contextual factors may impinge on children's developmental outcomes in the early years. When children experience vulnerabilities from the trauma of abuse and neglect, poor health, or persistent poverty, developmental outcomes may be compromised. Particular children, for example, those who have below-average intelligence or are less proficient in the language of instruction, may experience vulnerability as they fall behind in academic efforts and develop a sense of inferiority. Similarly, poverty, socioeconomic disadvantage, and ethnic status may pose barriers to learning at school. Growing up in different family configurations such as single-parent, blended, and extended families may pose particular challenges or opportunities for children at this stage. When children experience disadvantage from the trauma of abuse and neglect, domestic violence, bullying, poor health, or persistent poverty, it is likely a sense of vulnerability may continue into adolescence.

In middle to late childhood, children advance in self-understanding and capacity for social comparison and social understanding. This period is marked by changes in children's sense of self, including an ability to differentiate their thoughts and feelings from others. In terms of emotional development, children display increased and more sophisticated understanding of emotions of pride and shame and an ability to suppress negative emotions and redirect their feelings. As children progress into late childhood, they are able to use various coping strategies to deal with stress. Children appear to be able to make moral judgments and in comprehending right from wrong are able to evaluate their behaviors and motives. Most develop a sense of positive self-regard, which fosters resilience in challenging situations.

During the primary school years, peers are influential to children's psychological growth, affording opportunities for acceptance and approval. Peers

provide opportunities to form relationships of equality with individuals outside the family, enabling them to deal with perspectives other than their own and overcome their egocentrism. Similarly, siblings exert their influence through the learning that occurs from imitation and negotiating sibling conflict, observes L. Alan Sroufe.

Prosocial behavior such as caring and sharing, motivated by empathy, become more prominent during the school years. During this period children comprehend ideas of fairness and by late childhood can relate to notions of equity for other children with special needs.

With respect to cognitive development, school-age children develop *concrete operational thinking*, as described by Jean Piaget, mastering mental activities concerned with observable objects and events. They attain the skill of *conservation* (an appreciation that properties of mass and length remain unchanged despite changes in appearance) and other new skills including *seriation* (appreciation of size, weight, and length), *categorization* (flexible thinking about classifying objects/individuals), and *spatial relations* (ability to comprehend spatial relations of their daily environment). Piaget's conceptual work on cognition and children's thought processes underpin approaches to education in the primary years.

This period is also significant in terms of gender identity. Important changes in sex role socialization occur between mid-childhood and adolescence. While gender segregation is less pronounced in the preschool years, it is more evident in middle to late childhood. Cultural identity is also of significance for children in that children may be exposed to conflicting cultures, most obviously children from ethnic minority families and those who are refugees. For many of these children, there will be the challenging need to understand both social worlds, learn to operate in both, and incorporate both identities.

Conclusion

It is important to note that each developmental stage is embedded in and builds on previous stages,

besides being enmeshed with the life span of others. While recognizing each stage as a discrete entity, treating each as mutually exclusive is limiting.

While the developmental theories of Erikson and Piaget reviewed portray a universality of children's needs and developmental trajectories, it should be noted children are individual and care is to be taken not to homogenize them. Young children come from diverse cultures separated by gender and categorized by health status and social class, and they have constantly changing needs based on age. Matthew Colton and colleagues note that the Western bases of child development norms carry with them a power differential that is aligned with White, middle-class baselines.

Piaget's theories have been challenged in relation to his estimates of children's competencies at different developmental stages, and the need to recognize the impact of training, education, and culture on their capacity to think and reason at different and higher levels. Lev Vygotsky's influential theory, the zone of proximal development, and Urie Bronfenbrenner's ecological theory maintain that development is context-specific and must be understood in the context of the social interactions and dialogues that take place between a child, parents, teachers, and other representatives of the culture. Parents, peers, teachers, and mentors often provide scaffolding to strengthen and extend a child's capabilities.

Elizabeth Fernandez

See also Attachment and Stress; Autonomy; Cognitive Developmental Theory; Emotional Development; Psychosocial Theory

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INQUIRY

Early childhood education has long been synonymous with approaches that are integrative of children's backgrounds, home lives, and existing knowledge—the process by which the field mixes together a set of related learning concepts (such as science, math, and literacy) into one congruent arrangement of lessons. However, it has also been tradition that many early educators approach the classroom with didactic arrangements of topics, such as colors one week and shapes the next. In some ways this traditional approach to learning is “easier.” The teacher plans the lessons and sets up the environment based on his or her understanding of child development and the developmental needs of his or her classrooms. While the teacher perspective is needed, it is also important to listen to the curiosities (in what children seem to be interested) of children in guiding what a teacher implements in the classroom. More importantly, according to Lynn Hill, Andrew Stremmel, and Victoria Fu, it becomes necessary to find a curricular approach to make the learning most understandable and meaningful to the children: inquiry-based methods.

Hands-on activities such as role play, dramatic play, pretend play, and imaginative play all help to make concepts leap off the pages of a lesson plan and become integrated into the children's existing schemes as the play scenarios relate to their lives. According to Hill, Stremmel, and Fu, using methods that tap into children's existing knowledge enhances their learning by giving them a point of reference with which to make associations. Inquiry-based methods are becoming more widely accepted in today's early learning classroom.

Classroom Content Learning

Historically, most classroom content learning is approached within arrangements of topics in

curriculum, or thematic planning. Typically, these themed lessons are developmentally based, teacher-created modules, that may or may not relate to each other and typically move at a fevered pace; they might involve learning about community helpers one week and the ocean the next. Far too often this type of planning misses two target ideals: acknowledging children as the protagonist in their learning and integration of children's existing knowledge into the lessons.

Thematic planning leaves a gap in knowledge and often exposes children only to surface content, including stereotypical representations of race and ethnicity. One way to move from a historically static type of learning into a more dynamic type of learning would be to consider the benefits of inquiry methods. More importantly, a more dynamic approach will allow the teacher to embrace whatever societal trends pervade the curriculum; it will move with the ebb and flow of the variety of topics considered relevant at the time.

Progressive Education and Inquiry

There is an increasing argument among some school district leaders and state education officials that a standards-based, prepackaged curriculum is more beneficial to children's long-term learning and boosts children's social abilities. It undoubtedly eases the burden on teachers' time in planning. However, it is not in the best interests of the children to deliver curriculum that has not been developed to meet their individual needs or the needs of specific classrooms.

In earlier times, educators and philosophers such as John Locke (1632–1704), Jean-Jacques Rousseau (1712–1778), and Johann Heinrich Pestalozzi (1746–1827) professed that educators of young children should use child-centered practices. After studying the Swiss educator Pestalozzi's fervor for educating every child with the skills he or she needs to be successful in life, Friedrich Froebel began what developed into our modern-day kindergarten. In the text *Reinventing Kindergarten*, Norm Brosterman suggests that Froebel believed children had innate curiosities

that drove their desire to learn and it was the educator's job to support that curiosity.

John Dewey was a pioneer in his time for seeing children as protagonists in learning. He valued their input and past experiences as evidence of cognitive knowledge. This began a shift from teachers being seen as filling an empty vessel of a child to teachers who worked in collaboration with the child to build (co-construct) knowledge. Dewey's philosophies are ever prevalent for those who attempt to move to a social-constructivist, inquiry-based methodology.

Dewey continued to profess the appropriateness of child-centered education as early education moved into the 20th century. His pedagogical approach of negotiated curriculum gave us the ability to trust that children can be active participants in the planning and delivery of content. What Dewey could not have foreseen was how the accountability movement and in particular the No Child Left Behind Act of 2001 would greatly change the landscape of approaches in early education. A new focus on mastery learning and the need for performance data moved many classrooms to leave behind the original intent under which early education was founded.

While there is no one program that will fit the needs of all children, it seems most compelling to place children in programs that look toward the past for guidance—to Pestalozzi, Froebel, and Dewey—and return to the key themes of what we know to be appropriate for young children: early learning environments based on emergent curriculum, hands-on materials, and most importantly to respect that innate drive that guides children in the learning process. With the world of education still grappling with the movement toward scientific-based educational research, as a byproduct of No Child Left Behind, it is important to ask important questions when it comes to educating societies' youngest, most malleable children.

The crux of any good ECE/SE program relies on the faculty understanding of age and individual appropriateness when setting up the learning environment and providing instruction. In an inquiry approach, the needs of the developing child drive

the delivery of content. The aim is to help teachers think outside of the box that is considered “traditional” educational practices—thinking of ways to change curriculum, methods, and environments to support different ways of learning. Of course curriculum alone does not an effective early education program make. It is vital to be a reflective and informed decision maker when considering providing services for all children, using best practices. Susan Bredekamp defines best practices as techniques or methods that, through experience and research, have been proven to yield the most desired results.

A teacher can be frustrated to receive a child in his or her classroom when it is evident that in the previous classroom the child’s particular needs were overlooked, and that instead the child’s skills or behaviors were viewed according to whether they were “within the range of typical development” as viewed strictly from a textbook perspective. Certainly observing and identifying needs is of the utmost importance for the early childhood classroom teacher. Combining those observations with knowledge of whole child development, family structure, and environment will provide the best picture of the child’s needs and abilities.

Planning an Inquiry-Based Classroom

The most difficult part of starting an investigation is giving up tight teacher control of the planning and delivery of the curriculum. It is now simply not enough to survey the class for needs without researching ways to set up the environment and curriculum to sustain good questions. There must be planning and setting up more incidental learning as well as anticipating children’s questions and what to do when those questions change. Teachers must not give up so much control that the children plan and set up each part of their day with no adult attention to standards of learning and development. Having an inquiry project or investigation in process, with a teacher guiding the learning, always monitoring interests and conversations, and adhering to standards of learning, is a delicate process. Think of it as the teacher spinning plates on a

stick. All of the elements must be in constant motion to keep the plates from falling (making sure needs are not going unnoticed) and trying to keep the plates spinning in the same direction (listening and responding to the children’s interest and needs and ensuring the curriculum also meets standards). Effective inquiry teaching interactions are based on the reciprocal relationships between the children’s questions and teacher understanding of skills that need to be taught.

For example, a teacher may have the didactic curriculum already planned for learning colors one week and letters the next, but what happens when he or she is keenly observing children’s interest, listening to their conversations, and watching what seems to fascinate them? The proverbial light bulb goes off and he or she can return the lesson plans to capture activities and materials that support the children’s questions.

Let’s say the children in one classroom are showing a great interest in the construction project across the street from the school. Their daily conversations somehow always gravitate toward what they are seeing out the window. The teacher will now start revamping previously planned activities and begin planning lessons, activities, and questions that help children find the answer to their inquiries as well as avenues to investigate new questions, all while incorporating academic content. In this instance perhaps the teacher brings sand and bulldozers and play buildings into the sensory table to imitate the construction zone in their immediate environment. Children would be encouraged to compare and contrast sizes and shapes of the buildings in their sensory table construction area with the building in the outside construction area (math), document questions and draw and label pictures of what they see happening (literacy), and on this process goes until the questions are answered or the children’s interests change. What makes this so dynamic is that it is meaningful and interesting to the children, which makes them highly engaged in discovery.

Using daily routines, planned activities, and natural and logical consequences, a teacher can provide instruction that helps children develop in all five

domains: social, emotional, cognitive, language, and motor. Child-initiated activities are those that will hold a child's interest the longest and will be retained more often.

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See also Child-Initiated Learning; Constructivist Curriculum; Emergent Curriculum; Inquiry-Based Learning; Reflective Practice; Reggio Emilia Approach; Reggio Emilia Approach, Role of the Arts in

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INQUIRY-BASED LEARNING

Inquiry-based learning is also referred to as *project learning*, or the *project approach*. In early childhood education, inquiry-based learning is often linked to the Reggio Emilia approach developed in Italy, John Dewey's theory of experiential learning, Lev Vygotsky's theory of sociocultural learning, and Jean Piaget's developmental theory. The primary aims are rooted in investigations based on authentic interests of the children, peer collaboration, critical thinking, autonomy, and documentation and communication of learned knowledge. As discussed by Diane Parker:

Inquiry is a way of looking at the world, a questioning stance we take when we seek to learn something we don't yet know. And when we are truly inquiring about something, whatever it may be, we drive ourselves to learn more and more because we are seeking answers to our own questions. (Parker, 2007, p. 1)

Early childhood education has an extended history of supporting children's discovery and inquiry through exploration of the environment, including objects, people, and places, and engaging young minds in meaningful representation of these experiences. The integrated learning from these explorations builds children's social, emotional, physical, and cognitive knowledge and motivation for learning.

Planning for this type of learning requires careful attention to the environmental setup, the intentional use of space, smaller groups, and a balance of exploration and guidance from the teacher. Children will show different levels of interest in any particular topic of study, which is why multiple investigations and multimodal approaches representing their knowledge both are critical for meeting the needs of diverse learners. Involving parents and community experts is an important part of the collaborative learning process. Hearing from experts on the topic under investigation and visiting field sites for primary experiences afford children opportunities to interact directly with those knowledgeable in the field of study.

Theory

Educational and developmental theories have influenced early childhood pedagogy. The three theories in particular mentioned earlier have impacted early learning as well as preservice training programs. Additionally, early education policy and programs in Reggio Emilia, Italy, have been models for the experiential and constructivist approaches for teaching.

Dewey's experiential learning theory is the foundation of democracy education, the progressive education movement in the early to mid-20th century. He founded the University of Chicago laboratory school, which became a model school for child-centered, experiential education. He did not prescribe curriculum but helped shape the understanding that children are autonomous human beings with curiosity that motivates them to learn by doing.

Vygotsky's sociocultural theory emphasizes learning through social interaction. Further, learning is situated in a cultural context that is integral to children's education. Pedagogy focuses attention on offering enough guidance and culturally relevant support that children can appropriate knowledge and the learning process toward autonomy. Peer and adult-child interaction and symbolic representation become central to an engaging educational environment.

Likewise, Piaget's developmental theory values social engagement, exploration, and problem solving, which lead to knowledge construction. Vygotsky and Piaget are both grounded in the social construction of knowledge. However, Piaget focuses more on the developmental stages children go through in constructing knowledge from the world surrounding them. Further, the model policy and educational settings that Reggio Emilia offers are centered around the rights of children to have engaging educational environments that support their natural curiosity and drive to learn. Inquiry and investigations, the project approach, are at the center of this model. The teacher's role is to observe children, engage their interest in multiple inquiries, document their observations, empower children to represent their learning, and enable meaningful communication of their findings.

Investigation Approach

A challenge to teachers in the investigative approach is to bridge their observations of children's interest to meaningful resources from which children will come up with questions that will further their research and knowledge acquisition. Teachers need to be prepared for three phases of an investigation. Once observed interests are identified through symbolic play, shared stories, shared experiences, and so on, teachers provide numerous resources in the classroom, including books on topics that have emerged as particularly interesting, materials to explore, opportunities for symbolic play and representation, and then determine which topic(s) to pursue in depth.

This leads to phase I, beginning the inquiry. Children generate questions, facilitated by interactions with the resources and discussions the teacher leads. With guidance children plan how they might research their questions. Children document their questions and prior knowledge in multiple ways, through multiple media. In phase II, the inquiry, children investigate further their specific questions with field visits that afford direct observations enhanced with experts in the field of study. Documentation is central to the process; children represent their learning process and new knowledge. Phase III is comprised of children sharing and celebrating their investigation and findings with others, usually culminating in multiple projects that emerged from their inquiry. This phase contributes to children's ownership of the project and ability to communicate their learning effectively and meaningfully.

Some of the tenets specific to inquiry learning are as follows:

- Children are naturally curious and are successful learners with an appropriate balance of environmental support and exploration.
- Children self-regulate best when exploring through symbolic play and representation of knowledge.
- Adults' roles include providing a rich environment with resources from which children can choose to experiment and build constructs,

observing closely each child's interest and learning, and scaffolding their representational process and outcomes.

- Attention to complex interactions among families of diverse backgrounds is critical to building successful learning communities.

Early Childhood Teacher Education and Research

Early childhood educators have long understood the need for developmentally appropriate practice for young children and the professional development of preservice and in-service teachers of young learners. Theory and research emphasize positive outcomes when educators focus on children's strengths, interests, and curiosity within cultural and familial contexts. Scholars such as Luis Moll and James Coleman provide educators with a background for partnering with diverse families while developing self-awareness regarding educators' beliefs and prejudices as well as sensitivity to various cultural routines and expectations. Reciprocity with families enables a wealth of resources and support for successful outcomes for children's inquiries for construction of knowledge.

Additionally, teacher education programs and community partners are combining efforts to research relevant higher education curriculum and meaningful internship experiences for teacher candidates. Efforts reflect also the increasing need to document children's learning that meet the Common Core State Standards. Further, portfolio assessment of teacher candidates demonstrates teacher-student engagement in the classroom facilitating children's depth of inquiry and critical thinking. Increasing attention to collaborative efforts among teacher education programs, school administrators, and teacher mentors shows promise for research and school improvement.

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See also Constructivist Curriculum; Emergent Curriculum; Inquiry; Integrated Curriculum; Project Approach; Reggio Emilia Approach

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INTEGRATED APPROACHES

An *integrated approach* combines the education and care of young children (early childhood education and care, or ECEC) in a holistic and coherent manner in order to support families in the ongoing relationships that exist between direct and indirect services that occur within the meaningful environments and experiences of early childhood. This type of approach utilizes a network of multiple services working together as interdependent dimensions within the field of early childhood. Young children and families are provided access to services that may include social welfare, child care centers/schools, family supports/agencies, employment/vocational services, and health services.

The traditional approaches to early childhood education define the education of the child and the

care of the child as two separate sectors (i.e., state versus family) with separate responsibilities. Factors such as industrialization, changes in the family dynamic, declining birth rate, poverty, and the shrinking work force have had a negative impact on the effectiveness of traditional approaches. The separate responsibilities between family and state often result in inconsistencies in quality of care across age groups and with related transitions between and across services.

Integrated approaches to early childhood education create a shift in thinking from a selective and exclusive focus to one that is universal and inclusive. Relationships between state and family are redefined to ensure quality home care and effective access by families to quality, basic services. The rights of children become paramount so they can reach their potentials in all areas of development to include cognitive, language, social-emotional, and physical domains. Finally, families and society work collaboratively to share the responsibility of appropriate care and education of their children (i.e., a human rights model replaces family alone/society-at-large focus) to provide more capability in accommodating the diverse needs of families.

As the boundaries between the disciplines and services become interdependent, the multiple facets of socioeconomic/cultural, political, and pedagogical factors warrant a broader theoretical framework and rationale that provides a common grounding for the coordination and implementation of quality early childhood education and care. The resulting paradigm shift to a collaborative and holistic mindset has implications for both policy and program implementation.

Policy Implementation

The changes in terms of policy implementation impact the early childhood education system, administrative services and agencies, the populations and age of children receiving services, and the program budget. The comparisons between traditional and integrated approaches are described in Table 1.

Remaining Policy Considerations

Practical challenges remain with the coordination of policy implementation. For example, the definition of a unified policy that ensures dual ECEC functioning of social and educational sectors still requires refinement. The shift from traditional to integrated approaches is slow, and many aspects of the traditional approach remain firm in ECEC institutions across the globe. Different age groups receive unequal attention due to services in different systems, and this “disconnect” with the transfer of services between sectors impacts the appropriateness and ability to accommodate diverse needs. A strong public commitment is required for ECEC accessibility to support young parents especially during their child’s earliest years of life. The care for children under the age of 3 is understandably more costly because of the required high adult–child ratios, equipment and supplies, and so on. Quality is often sacrificed when cost is a factor, so public investments must be considered in order to support services and the infrastructure such as social-development projects. Lastly, appropriate training and work conditions must be provided for early childhood professionals with ongoing monitoring, data collection, research, and evaluation to ensure quality improvement and sustainability.

Program Implementation Within Integrated ECEC Approaches

The integration of early childhood education and care has implications for program implementation. The impact on service delivery, staffing, settings, pedagogical methods, and parental involvement is explained in the following sections.

Service Delivery Model. The challenge is to develop a unified system with objectives that provide for diversity of services beyond the boundaries of the traditional school system. The school-oriented (traditional) model is often limited in scope (i.e., provisions are center based, during school year, and school hours only). With a client/family-focused model, services are tailored to provide flexibility and a variety of options (e.g., center

Table 1 Policy Implementation: Traditional Versus Integrated Approaches

	<i>Traditional</i>	<i>Integrated</i>
Education System	Focus on preparation of schooling. Exclusive access to early childhood care for at-risk populations and special needs. Family has exclusive responsibility for early years (0–3 years), and state responsibility begins at age 3.	Focus is on child development. Universal access to early childhood education and care with increased state responsibility and focus on the whole child beginning at birth. Mutual partnership between family and state/society.
Administrative	Traditional split model between education and health/public welfare systems.	Unified model with coherence and coordination in objectives, funding, operating procedures, and regulation.
Target Population	Selective/Exclusive or Deficit Model. Primary focus on children and families of poverty, special needs, and other “at-risk” populations.	Universal/Inclusive or Human-Rights Model. Focus to accommodate diverse needs of all children and families (e.g., birth to age 8, pregnant women, and caregivers).
Age Range	Coverage for education and care for children 3 and older because of their “rights” to public funding. Minimal focus on birth through 3.	Expanding age range from birth to age 8 assumes a more active role in providing services at the state level, with a particular emphasis on the birth through 3 age groups.
Budget	Private funding.	Public investments in services and infrastructure; effective state involvement; quality and affordable early childhood education and care.

Source: Adapted from Haddad, L. (2002). *An integrated approach to early childhood education and care*. Early Childhood and Family Policy Series (No. 3). Retrieved from <http://unesdoc.unesco.org/images/0012/001279/127983e.pdf>.

based/home based, full time/part time, same age/ mixed aged) for high-quality care.

Staffing. With an integrated approach to ECEC, the responsibility of child socialization shifts from a private issue to a professional responsibility. Trained staff is essential and the work force must have compatible goals and coherent program implementation. Challenges remain with budget constraints that negatively impact teacher compensation. This in turn puts welfare or lower-funded systems at risk for limited access to well-trained and qualified staff.

Settings. With integrated ECEC, the former institutional setting of a school is transformed into

spaces for children within home- and community-based environments that are respectful of the current family dynamics (e.g., working parents, smaller families, single-parent) and facilitate development of relationships between early childhood staff and families.

Pedagogical Approaches. Traditionally the care-oriented approach, where learning is the primary focus, views children as recipients of care or needing compensation for home environment deficiencies. An integrated pedagogical approach considers the whole child, and children are now seen as competent and active participants in their learning. Teacher-directed learning is replaced with child-directed learning to create a pedagogy for ECEC

that fosters a culture that protects and respects children in their own right both as individuals and as members of their communities.

Parent Involvement. Rather than limiting the rights of parents, integrating ECEC supports parents as partners in the shared responsibility of the socialization of their young children. Strong parent–staff relationships are paramount and based on open communication, trust, respect, shared knowledge, and family traditions. The ECEC settings should provide social networking for parents to form ties with other families and community members. Challenges remain, however, with ensuring mutual respect and parity of roles between all parties.

Benefits of Integrated ECEC

Integrated early childhood education and care approaches have been applied to address problems in at-risk populations with high infant/child mortality rates, young single parents, HIV/AIDS, malnutrition, poor psychosocial development, delayed development, and low school readiness.

The successful applications of integrated ECEC has brought to light the multiple benefits of using this approach: (a) providing a coherent policy to regulate funding, training, and service delivery across systems; (b) ensuring a continuity in transitions from one educational system to the next through cooperative relationships between early childhood caregivers and primary school staff; (c) broadening experiences for children and families with universal eligibility across expanded age levels; (d) facilitating multiple opportunities to reinforce learning, form new frames of reference, and increase understandings of the world; and (e) providing intentional and meaningful support for families to increase parent involvement and to enhance socialization opportunities and social networking cohesion.

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See also Child Development and Early Childhood Education; Early Childhood Education; Family Partnerships; Family-Centered Practices

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INTEGRATED CURRICULUM

In early childhood education, learning focuses on the whole child and how each child makes sense of his or her world. Integrated curriculum unites concepts across subject areas, such as mathematics and social studies, through learning experiences that enhance the child's skills, knowledge, and thinking. The experiences reflect a program's goals and educational standards, and are planned to make learning meaningful and engaging. Integrated curriculum is the how, what, when, and why of a program of study, which connects subject areas and developmental domains to enhance learning.

What Is the "Whole Child"?

The whole child refers to a basic understanding of who is the primary focus in early childhood education (ECE). For children from birth through 8 years, learning occurs through each child's interaction with their environment. This interaction requires the engagement of all domains of development: physical, intellectual (cognitive), and social-emotional. Gains made in one domain spur development of concepts in the other domains. For example, when a child begins to crawl, his world enlarges, which encourages further manipulation and exploration of his environment. This manipulation and exploration lead to

the development of new concepts (intellectual development), as well as learning limits with the frustration and consequences that limits entail (social-emotional development).

In primary, elementary, and secondary education, learning has been viewed as primarily a cognitive activity. Physical development and social-emotional development were considered unimportant or tangential to academic achievement. Life skills and preparation to be a productive member of society, which underpin progressive education, were displaced by emphasis on academics. Research in how humans learn has brought new awareness of the need to consider the whole child. In 2007, the Association for Supervision and Curriculum Development (ASCD) launched a Whole Child Initiative, which stresses the return to the broader purposes of education for teachers and communities.

Importance of Integrated Curriculum

Integrated curriculum relates to early childhood education in several significant ways. First, integrated curriculum in early childhood has a theoretical base in the nature of how children learn. Constructivist theory, as described by Jean Piaget, holds that the learner builds new knowledge internally on a base of previous knowledge and through interaction with his or her environment. Sociocultural theory, Lev Vygotsky's view of intellectual development, expands the constructivist theory. Proponents of this theory believe that language, social interaction, and culture highly influence learning. Integrated curriculum uses the young child's natural need to explore, interact with others, and construct knowledge.

Second, within integrated curriculum concepts are interrelated. Natural relationships that exist between phenomena make an integrated curriculum more cohesive and relevant to the learner and teacher. Based on the knowledge of the various disciplines at that time, Aristotle advocated teaching that made relationships clear between the disciplines. In 2009, the National Association for the Education of Young Children (NAEYC) issued a revised version of its position statement, *Developmentally Appropriate Practice in Early Childhood Education*

Programs Serving Children From Birth Through Age 8. One of the key messages of that position paper states that comprehensive, effective curriculum for young children needs to provide learning experiences that are more integrated and aligned than in the past.

Third, integrated curriculum supports and enhances inclusion. Inclusion refers to the educational practice of placing children with special needs in the least restrictive learning environment, which is often the regular classroom. Early childhood educators believe that all children can learn in their own way and at their own pace. When integrated curriculum design is used, children of all abilities and skills can participate and learn. Positive outcomes may occur in the academic domain and more importantly in the social-emotional domain.

Benefits of Integrated Curriculum

The benefits of integrated curriculum are closely aligned with the importance of integrated curriculum in early childhood. Integrated curriculum enhances the formation of concepts, develops a wide range of skills, and expands critical thinking. In early childhood, an integrated curriculum starts the child on a journey of lifelong learning. In addition, research has shown that integrated curriculum

- improves student motivation and discipline within the classroom;
- promotes and enhances social interaction and learning from and with peers; and
- helps all students academically in the primary grades and above.

How Does Integrated Curriculum Work?

The implementation of an integrated curriculum is varied, as a review of the literature reveals. Discussion of integrated curriculum sometimes focuses on who or what drives the curriculum and a continuum of teacher-directed to child-directed approaches is suggested. Some writers view integrated curriculum as a curriculum design approach in which the content to be taught is reorganized into themes to connect the disciplines or subjects,

that is, as a multidisciplinary approach. A second approach uses common concepts from several subjects as an organizing structure and is referred to as interdisciplinary. Within a third approach, the discipline or subject knowledge is stressed less than learning important life skills within a real-life context, which is called transdisciplinary. Each provides direction to improve teaching and learning, and demonstrates changes in teacher attitudes/dispositions toward shared responsibility and innovation. These three approaches to integrated curriculum differ in some specific ways: first, organization of the experiences; second, the role of the teacher; third, the view of the disciplines/subjects; and fourth, the acquisition and understanding of knowledge.

Through the multidisciplinary or theme approach, traditional school subjects, such as math, science, and social studies, are organized and taught by using themes, such as winter or weather. Distinct concepts and skills significant to the discipline are taught through planned experiences, which are directly related to meeting discipline standards. The teacher's role is that of a specialist and facilitator of the process. The structure of the disciplines is viewed as the most effective way of acquiring knowledge and meeting standards. Emphasis is on giving the correct answers and using the procedures and processes of the discipline. Assessment of learning occurs through traditional testing methods such as multiple-choice questions, short answers, or demonstrations of the knowledge, process, or procedures of each discipline. Common examples of this approach include service learning programs and the use of learning centers within the classroom.

Using an interdisciplinary approach, common skills and concepts of several disciplines are the organizing structure. Thinking skills, problem solving, measurement, reading, and comprehension are examples of common skills embedded in the subject disciplines, which are used to organize the curriculum. Lessons or explorations demonstrate the common principles, which then lead to the discovery and development of other skills and concepts. In this approach knowledge is socially

constructed and allows for a number of right answers. Emphasis is on the interdisciplinary concepts and skills in both planning for learning and assessing outcomes. The teacher's role is as a facilitator and specialist within the process. The integration of science, technology, engineering, and mathematics, commonly called STEM, is an example of this approach. Some schools are enhancing the STEM integration with the inclusion of the arts, referred to as STEAM. Learners become more confident and competent in the STEM and STEAM subjects when exploring, discussing, and demonstrating the outcomes of their learning activities.

The philosophy and goals of progressive education for a democratic society, advocated by John Dewey and others, provide the basis of the transdisciplinary approach to integrated curriculum. Dewey saw the goal of education to be the preparation of the learner as a productive member of a democratic society. Student concerns and questions are the organizing structure with an emphasis on real-life situations and experiences. Knowledge is viewed as changeable, interconnected, and interdependent, leading to multiple answers. Discipline knowledge or subject knowledge is considered within the context of solving a problem, but it is not emphasized. Integrated curriculum has at its core a deepening knowledge of one's self and the world with a goal to resolve issues. Everyone is viewed as a learner—child and teacher. The transdisciplinary approach presents a paradigm shift in teaching and learning because the teacher shares responsibility for the curriculum with the students and becomes a co-learner and co-planner. James Beane and others claim that correct implementation of integrated curriculum is found in only this approach.

The Project Approach demonstrates this approach to integrated curriculum in early childhood programs. Sylvia Chard and Lilian Katz advanced this project-based approach. Their process involves three steps:

1. Children and teachers select a topic to investigate. The topic is based on children's interests, curriculum standards, and local resources. During this step of the project,

teachers find out what children know and what they would like to know about the topic. Teachers then generate a list of questions to be answered and possible ways to find the answers.

2. The teacher provides possible resources and opportunities for field work. Resources may include field trips, explorations outside of school, and opportunities to talk with individuals related to the topic. Children are placed in small groups according to their common questions and interests.
3. A culminating activity shares the results of their work with others. Children share the results of the exploration and review and evaluate their project.

Research shows the impact of positive social and emotional development to the enhancement of life skills and academic achievement. One of the strengths of integrated curriculum is its engagement of the whole child in fostering development in all domains. Central to integrated curriculum is the social interactions found in each approach. The Collaborative for Academic, Social, and Emotional Learning (CASEL) and the Center on Social and Emotional Foundations for Early Learning (CSEFEL) have produced resources and research to support social and emotional development in young children. Integrated curriculum enhances the child's skills, knowledge, and thinking in all developmental domains.

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See also Approaches to Learning; Constructivist Curriculum; Curriculum and Early Childhood Education; Planning; Project Approach

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- Center on Social and Emotional Foundations for Early Learning: <http://csefel.vanderbilt.edu/>
- Collaborative for Academic, Social, and Emotional Learning: <http://www.casel.org>
- Whole Child Initiative: <http://www.ascd.org/whole-child.aspx>

INTELLECTUAL ASSESSMENT

Intellectual assessment is a fairly sophisticated field, with tools that have been refined for over 100 years. Not all of these tools apply well to early childhood (birth to age 8), but some of them do. There are compelling reasons to assess intellectual functioning during early childhood. Two reasons that are often noted are detecting exceptionalities and allowing empirical research on intellectual development. Exceptionalities may reflect creative potentials or the potential to excel, or they may be indicative of developmental concerns, in which case the intellectual assessment is an important part of a diagnosis. In terms of research, intellectual assessment tools are especially helpful for longitudinal research, and longitudinal research may be the most powerful method for studying development.

This entry reviews the methods for intellectual assessment during early childhood. Some of the more common tests are briefly discussed, as are the pros and cons of each. Intellectual assessment during early childhood can be challenging. The

child between the ages of birth to 8 years is generally not accustomed to tests, as are older children. Attention span can be limited, as can communication. Stranger anxiety can come into play and distort the assessment. Any one of these challenges, at the extreme, can preclude the administration of a test. Even if less than extreme, each can add significantly to measurement error. Admittedly, every intellectual assessment has some measurement error. No test is perfectly reliable. Still, if there is rapport, communication is good, stranger anxiety is absent, and attention is maintained, the tests discussed in this entry can give meaningful results.

Examples of Tests

One test that was specifically designed for infants is the *Bayley Scales of Infant Development*. It focuses on psycho-motor behaviors in children between 2 and 30 months. Tasks include (a) turning to observe an object, such as a spoon, as it moves; (b) vocalizing displeasure; (c) smiling at an image reflected in a mirror; and (d) inspecting a ring (especially sustained inspection). The last of these is supposedly indicative of alertness and exploratory behavior. Observing a moving object is indicative of goal-oriented attention. Smiling is of course a social response. And vocalizing any sort of displeasure was labeled by the test author as an *extrovertive response* that may be goal centered or goal oriented. There is an addition to the Bayley Scale for children at age 12 months that adds an assessment of communication skills and “intellectual concepts.” Cognitive psychologists define concepts as clusters of information. (They have also been called schema, schemes, and scripts.) Even a 1-year-old constructs knowledge structures, or concepts. When the child has developed concepts, movement becomes more controlled and the individual is more likely to obey simple commands, and perhaps imitate. Behaviors move from reflex and stereotyped *circular reactions* to exploration. Concepts are meaningful indicators of intellectual capacity, even at 12 months.

The Infant Psychological Development Scales represent a second assessment that can be used

during infancy. These assess vocal imitation, visual permanence, visual pursuit of objects, and an understanding of causality. Importantly, this test recognizes that development is usually stage-like, and one intellectual skill must be developed before more mature skills would be expected. There are exceptions. An orderly progression from stage and skill to more mature stages and skills is not always found. Indeed, people assessing the intellectual capacity of very young individuals should recognize that there may be some instability. A lack of stability is frequently attributed to low reliability of the assessment, but in early childhood it could also be a reflection of fluctuations in behavior. Some instability must be expected when assessing the intellectual ability of very young children. Jean Piaget referred to exceptions to stage-by-stage development as *decalages*.

There are measures that focus on specific intellectual skills, such as the *Scale for Construction of Object Relations in Space*. The test manual for this scale suggests that at 2 months, an infant will probably glance from one object to another when two things are present but not side by side. One month later, the infant alternates from one object to another but more quickly. At 4 or perhaps 5 months of age an infant will attempt to grasp the object. At 7 months, the infant may demonstrate some anticipation, such as when an examiner rolls an object off of the testing surface and the infant moves his or her eyes toward the spot where the object will probably land. At 9 months, an infant is likely to take small objects, such as blocks or perhaps beads, pick them up, and drop them into an empty container, if one is at hand. Here again development is seen as progressing in a linear, stage-like fashion.

A newer test of cognitive ability was published in 1983 and is called the *Kaufman Assessment Battery for Children* (KABC). It drew from the cognitive sciences, including neuropsychology, and postulated that there are two important cognitive functions that can be assessed. One is *simultaneous processing*, and the other *sequential processing*. Simultaneous processing occurs when the individual takes various pieces of information and is able

to integrate them into one solution or one meaningful interpretation. The KABC has one task, called Magic Window, where a common object can be seen, but only a little bit at a time. The object moves behind a slit so only the part showing through the slit can be seen. But a child with good simultaneous processing skills will be able to integrate the information into a meaningful interpretation. The child will be able to name what object moved behind the slit. This integrative process may sound like something from Gestalt psychology, and as a matter of fact there is a Gestalt Closure task where some common object is presented on a card, but most of the image is missing. A child with good sequential processing skills can infer what is missing and again construct a meaningful interpretation.

Both of the tasks just described used “common objects.” That is because the KABC was predicated on the idea that simultaneous and sequential processing can operate independently of experience. The authors of the KABC were well aware that many IQ tests for older children were plagued by experiential biases. These occur when an examinee does well on a test, not because of ability per se, but because he or she had experiences that allow successful performance. There is a rebuttal to this view, namely that a person needs to have the ability to benefit from experience, in which case one could say that performance on a test that allows experience to play a role is a reflection of both ability and experience. In any case, the KABC was developed such that experience plays a very small role in simultaneous and sequential processing.

While simultaneous processing requires an all-at-once interpretation of an image, *sequential processing* is apparent in step-by-step problem solving. Hand movements test sequential processing. The examiner presents simple hand movements, one at a time, one second apart. Once the examiner is done displaying one set of movements, the child must repeat the same hand movements, in the same order. This test is not unlike “digit span” that is found on some tests for older examinees, and sequential processing may be indicative of real-life skills. Very frequently, to solve a problem correctly,

the steps in the solution must be followed in the correct order. Mathematics very frequently requires sequential processing, just to name one example.

Alan Kaufman and Nadeen Kaufman, who supervised the research team that developed the KABC, recognized that many existing measures of general intelligence, including the IQ, are potentially biased by experience. They have argued that their measures of simultaneous and sequential processing are more or less free of experience. They did include a third scale in the KABC to specifically target the impact of experience. This is the *achievement scale*, and a child will only do well on the achievement scale if he or she has had particular experiences. In a matter of speaking, it turns what is commonly known as an experiential bias on its head and attempts to quantify the impact of that experience.

The KABC can give a simultaneous processing score, a sequential processing score, and an achievement score. This results in a profile that includes both of the primary intellectual functions of the human brain, as well as an index of how much experience the individual has had and how much he or she has benefited from experience. This last point is especially important because people who trust traditional IQ tests realize that experience can play a role, but argue that the individual must be intellectually capable of benefiting from experience.

The KABC can easily be given in a standardized fashion. The materials lend themselves to consistency of administration. The examiner can easily move from task to task, and scoring and prompts and the like are discretely hidden from the examinee. Ease of consistent administration is enormously important. Without consistency and standardization, scores from different examinees or different testing periods cannot be compared. Norms would be worthless if some children received a test under one set of conditions while another child received the same test under different conditions.

Standardization is much more difficult than it sounds. It is not, for example, just a matter of using the same directions with each examinee. The tone

of the directions must be the same. The feedback must also be consistent, and this is especially difficult. Adults may be tempted to reward children who answer questions correctly more than children who do not know as many answers, but this would be unfair and represents a kind of inconsistency. Also, the hand movements task requires that the individual movements are given one each second. That too is difficult; there is a general tendency to add tempo to such things, but that could give the examinee an advantage. The tempo could provide information that facilitates the processing of the information.

For reasons such as these, intellectual assessments should be given by trained professionals. They should be given only after the tester has participated in many practice sessions and after there is certainty about the standardization of administration. There will still be measurement error, but standardized assessments minimize measurement error. When measurement error is minimized, test reliability is high.

Other useful tests for children in the early years include the *Stanford-Binet Intelligence Scales for Early Childhood*. It was developed for children between the ages of 2 to 7 and assesses general intelligence. Subscales target fluid reasoning, knowledge, quantitative processing, visual-spatial processing, and working memory. The primary advantage of the Stanford-Binet is probably its connection to the version given to older individuals, for this implies that there is a great deal of research available on its rationale and validity. It is also relatively short, a useful characteristic for assessing young children.

The *Wechsler Nonverbal Scale of Ability* may be used with children who are 4 years of age or older. This test also measures general cognitive ability but it attempts to minimize the impact of verbal and linguistic abilities on the testing and the scoring. As a result, it may be the test of choice when working with children whose first language is not English. That being said, there is a long-standing debate about the existence of nonverbal intelligence. In a sense, the idea of a distinct nonverbal ability is contrary to the assumption of a general intelligence, or *g*, a concept that ostensibly covers

all intelligence. Additionally, it is quite difficult to administer a test without some communication between the examiner and the examinee. Thus verbal skills, though not targeted by the scales of a test, may still play a role in test performance. It does make sense that tests for very young children should not penalize them for immature language. The Wechsler Scale is not the only nonverbal test available for young children. Another nonverbal test is the *Primary Test of Nonverbal Intelligence*, which is available for administration to children between 3 and 9 years of age.

A very different measure is the *Multiple Intelligences Development Assessment Scales* (MIDAS), designed for children age 6 or older. This instrument differs from the Stanford-Binet and the Wechsler scale in that it assesses different types of “intelligences” as originally conceptualized by Howard Gardner. Subscales in the MIDAS cover the following domains: musical, kinesthetic, logical-mathematical, linguistic, interpersonal, and naturalist. One advantage of the MIDAS is, then, that it does not assume one general intellectual ability, or *g*, and might be able to identify special talents better than an IQ test. Still, the MIDAS was apparently constructed more as a measure of self-understanding rather than standardized measurement. This is consistent with Gardner’s own view of intellectual assessment.

Discussion

There are several options for intellectual assessment in early childhood. Some of the tests discussed in this entry focus on *g*, or general intelligence, the assumption being that there is one ability, and thus one test score, that includes all intellectual domains and performances. Alternatives include the KABC, with simultaneous and sequential processing scores, and the MIDAS, which focuses on domains of performance. The choice of a test depends in part on the purpose of the testing.

There are special considerations when assessing intellectual potentials in early childhood. Rapport tends to be more difficult and more important in the early ages, and children may suffer from stranger anxiety when positioned in a testing environment.

Intellectual assessments are typically judged in terms of their reliability, validity, and usefulness. In general, both reliability and validity are lower when testing very young children, in contrast to testing individuals later in childhood, adolescence, or beyond. Even tests with only marginal reliability and validity are used in early childhood; they are used for diagnostic purposes, not prediction. A test may be given to a young child to eliminate the possibility of a developmental disorder, for example. Also, it would be unrealistic to expect the same levels of reliability and validity when testing children in early childhood. After all, they are changing in many ways, at a rapid pace, so there is not as much stability in their behavior, and thus good reason to expect variations in test performances as well. That would translate to moderate or marginal reliability.

If a test is useful, it can compensate for its marginal reliability and/or validity. The tests discussed in this entry are useful in the sense that they allow an examiner to observe a child in a standardized fashion. This in turn allows for comparisons of young children with other children in an appropriate age range. It may even be that the test score is less important when testing young children than is the report that summarizes the child's performance on the examination. Reports that accompany test results allow an examiner to discuss rapport, attention, and other behaviors and situational factors observed during the testing. This information may be as useful, or even more useful, than a simple numeric test score, especially when working with young children.

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See also Bayley Scales of Infant and Toddler Development; Multiple Intelligences; Reliability and Validity in Child Assessment; Standardized Assessment

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INTELLECTUAL DISABILITIES

An *intellectual disability* is defined as significantly below-average general mental ability that occurs during the developmental period from conception through age 18 that coexists with problems in adaptation and significantly influences a child's experience and performance in preschool, kindergarten, elementary school, and beyond. Specifically, children with intellectual disabilities are determined at any point between conception through 21 to have low general intelligence that is significantly different from that of peers, and to demonstrate problems with adaptation to the environment, especially school and educational experiences. This entry provides information about the causes of intellectual disabilities, characteristics, diagnosis, issues related to early childhood education from birth through age 8, and education.

Causes

The cause of intellectual disabilities is often unknown. However, intellectual disabilities can result from genetic disorders, problems during prenatal development (pregnancy), complications during birth, and difficulties that occur after birth. Some of the more common genetic differences include Down syndrome, phenylketonuria (PKU), fragile X syndrome, Klinefelter syndrome, Turner syndrome, and Williams syndrome. Problems of prenatal development can involve infections and diseases in the mother, as well as environmental influences such as poisons ingested by the mother that include tobacco and alcohol. Fetal alcohol syndrome is a result of a problem during prenatal development. Difficulties during birth also can

occur. A prolonged and problematic labor in which the child is deprived of oxygen can cause brain damage that can result in intellectual disabilities. After birth, a child also can be exposed to toxins, such as lead from lead-based paint or tainted drinking water, or diseases that cause intellectual disabilities. Malnutrition also is a major cause of intellectual disabilities in many parts of the world.

Characteristics

Because one requirement of the definition of intellectual disabilities is below-average *general* intelligence, young children with intellectual disabilities may experience challenges in several areas of development. Children with intellectual disabilities from birth through age 8 may be delayed in achieving developmental milestones. Rolling over, sitting, crawling, and walking, as well as talking, problem solving, and developing social skills, are often experienced later by children with intellectual disabilities than their typically developing peers. Many develop self-care or adaptive skills such as feeding, dressing, and toileting at a delayed rate. Even so, children with intellectual disabilities are often not identified until they enter school and begin to have difficulties or fail in school.

Diagnosis

Intellectual disabilities are diagnosed in young children by considering two things. These are *intellectual functioning* and *adaptation to the environment*. Intellectual functioning refers to children's ability to learn, problem solve, and understand. When young children learn, problem solve, and understand at a rate that is much slower than typically developing peers, they may be diagnosed with intellectual disabilities. However, children also must have problems with adaptive behavior. Adaptive behavior involves daily living skills. These include learning to feed oneself, how to use the bathroom, and how to dress oneself. Getting along with others, such as

peers, family, and adults, requires adaptive behavior as well as communication skills.

Issues Related to Early Childhood Education

Physicians, psychologists, and educators are hesitant to provide young children a diagnosis of intellectual disabilities. The term or category of *developmental delay* is often used instead until the age of 9. The term *intellectual disabilities* replaced *mental retardation* with the enactment of Rosa's Law, which was signed by President Barack Obama in 2010. This occurred because mental retardation was considered a derogatory term and, therefore, Rosa's Law changed references to mental retardation to intellectual disability in federal law. In fact, the term for intellectual disabilities has a history of name changes due to perceived insults in previous terminology. Prior labels included *idiot* for profound, *imbecile* for moderate, and *moron* for mild intellectual disabilities. The term *mentally handicapped* also was used. Until the 1980s, educators used the terms *educable mentally retarded* (EMR), *trainable mentally retarded* (TMR), and in some cases *custodial mentally retarded* (CMR). Until recently, psychologists and pediatricians used terms such as *borderline*, *mild*, *moderate*, *severe*, and *profound* when describing the magnitude of intellectual disabilities.

Education

Young children with intellectual disabilities are served through the Individuals with Disabilities Education Improvement Act (IDEA) in the United States. The Division of Exceptional Children (DEC) of the Council for Exceptional Children (CEC) synthesized the research on evidence-based practices for young children with disabilities, which includes children with intellectual disabilities, and published it in *DEC Recommended Practices in Early Intervention/Early Childhood Special Education* (2014). Evidence-based practices for young children with disabilities include appropriate assessment, child-focused instructional

practices, family-based services, and teaming and collaboration. Further, young children with intellectual disabilities should be included in general early childhood programs whenever possible. Instruction and support should be implemented in the natural environments of children, which may be in the home or other community settings. Routine-based activities within the context of natural environments are recommended for children with intellectual and other disabilities. Some children with intellectual disabilities need the support of a speech-language pathologist and other related service professionals, which should be provided through collaboration with the family and other professionals in natural environments and inclusive settings. Finally, there have been numerous studies that report the benefits of early intervention and early childhood special education for children with special needs, including those with intellectual disabilities.

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See also Developmental Disabilities; Early Childhood Inclusion; Early Childhood Special Education; Early Intervention; Intellectual Assessment; Intellectual Diversity

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INTELLECTUAL DIVERSITY

In early childhood, intellectual diversity is one of many variables that affects human development, learning, and performance. Because the first years of life are shaped by many different biological, environmental, and social influences, young children grow and learn at very different rates. This results in a diversity of development unmatched during other periods of their lives. This entry summarizes the primary influences on differences, disabilities, and other variables that result in diversity in children's growth and development.

Changing Perspectives on Diversity and Differences

Professionals have long recognized that children display vast differences from the earliest ages, and various societies have responded quite differently to these children across the centuries. In his classic work on the history of people with intellectual disabilities, Richard Scheerenberger chronicled the different ways societies have treated children who displayed differences in their development. In the fourth century C.E., for example, St. Nicholas Thaumaturgus of what is now southern Turkey was regarded as the patron saint of children, including those with obvious intellectual disabilities. His care and advocacy for children with developmental differences contrasts with the practice of infanticide (killing of young children with disabilities or developmental delays) that was common during ancient Greek and Roman civilizations. From the Reformation (starting in the 1500s) until the late 18th century, treatment of children with developmental disabilities alternated between inhumane practices and great protections—by churches, professionals, and in common society. Between the late 1700s and the late 1800s, an era of humane treatment was slowly advanced by European medical professionals such as Philippe Pinel, Jean Marc Gaspard Itard, Edouard Seguin, and others who sought better ways to identify and treat children with obvious disabilities. This

approach continued as nations and cultures changed to meet advances in medicine, education, employment practices, and other aspects of society.

The 20th century saw increased attention to improving conditions for children in society. With this attention, many nations created protections and increased resources for their children and the professionals who serve them. This includes resources for children at an early age, and for children with diverse intellectual, language, economic, and other characteristics. Respect for young children and the diversity they represent is found in the 1959 *Declaration of the Rights of the Child*, a United Nations proclamation that increased worldwide attention to children's problems. This included malnutrition, which in turn increases future problems for children and their families, as well as the lack of access to education found on all the continents. The international attention continued when UNESCO identified the *International Year of the Child* in 1979, and again when the UN established the *Convention on the Rights of the Child* in 1989. To date, 194 nations have ratified this treaty that establishes legal norms for children.

Consistent with this attention, some nations have specifically identified young children with disabilities as the focus of legislation that provides federal and state resources to support their early growth and development. In the United States, for example, federal legislation passed in 1975 (P.L. 94-142: Education for All Handicapped Children Act) specifically identified the need to identify and serve children with intellectual and other differences as early as 3 years old; subsequent reauthorizations extended federal support for early intervention for infants and toddlers, and provided support for families and service providers (Pub. L. 108-446: Individuals with Disabilities Education Act).

The educational psychologist Maynard Reynolds observed that most societies across time gradually moved from subsistence economies with a "Darwinian social order" to societies with more efficient means of meeting their citizens' basic needs. With this change comes a shift from a society using its entire energy to feed and clothe its citizens (thus only the strongest members of

society survive) to a society where citizens can enjoy arts, leisure, and pursuits not involving daily subsistence. With this shift, Reynolds described an inevitable *progressive inclusion* of people once outside the center of society into the everyday mainstream. Societies who once ostracized, banned, or otherwise excluded people considered "outside" the social mainstream learned to accept those very individuals and groups as "insiders."

Reynolds observed that this movement toward progressive inclusion often applied to differences based on religion, race, ethnicity, and disability. This progressive inclusion thesis has driven the practice of identifying differences in young children, and providing services to them using universally effective practices. Whereas professionals previously identified disabilities and differences in children, then separated them to provide service based on these differences, many professionals now consider developmental differences as one of many characteristics that add to the diversity of human experience. With pedagogy principles such as universal design for learning, contemporary early educators seek interventions and services that are effective for children with a great deal of variability across a range of diversity characteristics. In this way recognition of differences in young children, including intellectual and other disabilities, is considered to be part of the overall diversity of early childhood.

Child-Centered Sources of Intellectual Diversity

There are many sources of intellectual diversity in young children that reside "within the child." Medical professionals have long sought to develop classification systems for children based on assumptions that intelligence was hereditary, best represented as a "general characteristic," and resisted change resulting from time and environmental exposure. Terminology for these classification systems was often crude. For example, William Ireland, a physician who spent many years refining his system, published a classification system titled *The Mental Affections of*

Children: Idiocy, Imbecility, and Insanity in 1898. Ireland and others continued to promote classification systems well into the 20th century based on medical diagnoses, IQ levels, and perceived limits in children's ability to learn. Relying on medical conditions and other etiologies for their schemes, many professionals provided little practical application guidance for educators and families.

By contrast, some professionals sought to understand young children's differences by studying their sequence of development, with less emphasis on intellectual deficits. Arnold Gesell exemplified this approach in his 1925 classic, *The Mental Growth of the Pre-school Child*. Gesell outlined a sequence of development through which children typically proceed, albeit at different rates. These developmental milestones incorporated expectations for motor, language, social, and other outcomes in children.

Gesell also published time frames at which most children reached developmental milestones. With a developmental sequence and an estimate of when such milestones might be met, Gesell and others advanced the idea that delays in acquiring these milestones might serve as an early warning system for professionals and families. Early identification of delays might yield actions that promote educational or other interventions that facilitate development in children. Today many high-quality developmental assessments are available to identify developmental progress in children. Some, such as the *Hawaii Early Learning Profile*, are normed with children representing deep diversity in language, family structure, ethnicity, and other child characteristics, including intellectual measures.

Regardless of the classification system used to describe childhood diversity, there are many child-centered variables that add to the diversity of children. Often these child-centered variables create challenges to children's growth and development. Biological factors that include genetic or chromosomal disorders such as Down syndrome, fragile X syndrome, or Tay-Sachs disease create conditions that require increased attention to children's health, language and intellectual development, physical stamina, and related conditions.

Although genetic testing and counseling have reduced the incidence of these conditions, many young children with these conditions still enter the system of early childhood care and education. Similarly, other child-centered conditions resulting in intellectual and other developmental challenges result from trauma during birth, poor maternal health during pregnancy, or substance or alcohol abuse during pregnancy. Although these prenatal risk factors might result in noticeable intellectual and other disabilities, they might have no discernable effect at all. Any of these child-centered sources can present challenges to professionals unprepared for (or knowledgeable about) the conditions and the diversity in children's learning and development that result.

Environmental Sources of Intellectual Diversity

There is an array of exogenous or environmental variables that contribute to the diversity of growth and development of young children. One variable involves children's nutrition during their early years. In many parts of the world a reliable food supply keeps children adequately fed and hydrated, promoting healthy brain growth and proper development of other organs, bones, and muscles. In other areas, however, children experience malnutrition from an inadequate food supply, as well as myriad problems resulting from dehydration and unsanitary drinking water. These conditions are known to have a negative impact on brain development, and the resulting cognitive functions last long into adulthood.

For many children, poverty has a similar insidious effect on intellectual and physical development. The relationship between poverty and cognitive function is one of a multiplier effect. Deep poverty affects families' access to health care, nutrition, and sanitation that, in turn, serve as risk factors for human development. When these risk factors assault children's growth during their most vulnerable developmental years (i.e., the first 5 years of life), the cumulative impact may contribute to lowered intellectual development affecting

language, problem solving, memory, and creative expression. In addition, children living in poverty often begin school already behind children whose families are not affected by economic distress. The popularized slogan *war on poverty* has been used to generate support for children's issues by minimizing the impact of these conditions on children's growth and development.

A third source of environmental variables that affect intellectual and other development involves the impact of illness and injury. Many childhood illnesses affect children's development. Infectious agents such as chicken pox, measles, pneumonia, as well as viral and bacterial infections that cause meningitis, can result in seizures, inflammation of brain tissue, neurological problems, speech impairment, and hearing loss, all with a potential impact on intellectual development. Poisoning, most commonly from lead or mercury, is known to lead to diminished intellectual and physical development. Also, injuries continue to be a major cause of disability in childhood. Injuries may be the result of falls, automobile accidents, water events, and other unintentional actions; sadly, some injuries are the result of abuse and neglect. In addition to the obvious psychological impact of these events on children, they also take a serious toll on children's intellectual development.

Finally, a major source of variance in the intellectual development of children stems from the language environment in which children live. In a monumental work on the role of language environments, Betty Hart and Todd Risley examined the impact that "language rich and language poor" home environments have on children's language. Often correlated with poverty or lower socioeconomic status (SES), Hart and Risley chronicled the impact of daily exposure to the language diversity of adults and other children, showing that children's vocabulary growth was strongly influenced by *how much* parents talked to them. Language-rich environments had a stark impact on children, and at a far earlier age than previously believed. In a single year, children in language-rich environments heard up to 11 million words, while children in language-poor environments heard an

average of 3 million words. By age 3, children from language-rich, higher-SES environments averaged 3 times more vocabulary in their daily communications than children from language-poor environments. This disparity increased as children grew older, although highly structured, language-rich educational programs dampened the discrepancy somewhat. Given the critical role that language has on intellectual development, the need for robust language environments has become a cornerstone of most early childhood programs.

Increasing Early Childhood Educators Responsiveness to Intellectual Diversity

As societies increase the value that they place on healthy children, they increasingly expect that children will have access to high-quality early education experiences. Contemporary early childhood programs respond to a population of children made diverse by a host of cultural, ethnic, language, religious, and intellectual differences. Professional organizations such as the National Association for the Education of Young Children and the Council for Exceptional Children's Division for Early Childhood advocate for active and effective practices for a diverse population of young children. Their recommendations include the following:

- Early childhood professionals should increase their knowledge of diverse populations of children, including those with intellectual, cultural, language, and other forms of diversity.
- Early childhood professionals recognize that intellectual, cultural, language, and other forms of diversity are the expected norm in contemporary early childhood.
- Educators who prepare early childhood professionals should increase opportunities for future professionals to gain meaningful practical applications with diverse populations of children during their preparation.
- Early childhood professionals should increase support for educators who teach diverse populations of children.

As the expectation for intellectual diversity in children matches the expectation for cultural, language, and other forms of diversity, the creativity, excitement, and effectiveness of early childhood educators and programs continue to grow.

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See also Determinants of Child Development; Diversity in Early Childhood Education; Identification of Special Needs; Intellectual Disabilities; Poverty Effects

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INTENTIONAL TEACHING

Intentional teaching is the “planful, thoughtful, and purposeful acts teachers implement to ensure that young children acquire the knowledge and skills (content) they need to succeed in school and in life. Intentional teachers use their knowledge, judgment, and expertise to act with specific outcomes or goals in mind for children’s development and learning, and they integrate and promote meaningful learning in *all* domains” (Epstein, 2014, p. 242). Although intentionality had previously appeared as a term in early childhood pedagogy (for example, in the writings of David Berliner and Robert Pianta), the concept gained prominence with the 2007 release of *The Intentional Teacher* by Ann S. Epstein, published by the National Association for the Education of Young Children (NAEYC) (and revised in 2014). The book reflected the field’s growing recognition that teachers had to play a more visible role in early learning and that the educational curriculum must explicitly address content. This entry explains the concept of intentional teaching, discusses general best practices in intentional teaching, and details the topics and specific teaching strategies used in intentional teaching.

Intentional teaching reframes the sometimes strident debate between the ideas of child-initiated education and adult-directed education. It refutes both the claim that children do not learn academics when all they do is “play” and the claim that early social-emotional development is short-changed by explicit instruction. As the Committee on Early Childhood Pedagogy concluded in its report *Eager to Learn*:

Children need opportunities to initiate activities and follow their interests, but teachers are not passive during these [child]-initiated and directed

activities. Similarly, children should be actively engaged and responsive during teacher-initiated and -directed activities. Good teachers help support the child's learning in both types of activities. (National Research Council, 2000, 8–9)

Instead of a dichotomy, intentional teaching posits that children learn through a balance of *child-guided* and *adult-guided* experiences. In child-guided learning, children acquire knowledge and skills mainly through their own exploration, including peer interactions. In adult-guided learning, teachers plan or take advantage of opportunities to introduce information and model skills. In neither instance is either person passive, but one or the other takes the lead. Choosing the most appropriate method(s) depends on the particular content and/or child's developmental and ability level. Intentional teachers draw on a repertoire of proven instructional strategies to carry out the option(s) that fit the situation. Their choices are grounded in research on child development and effective teaching practices, and they observe children and modify their strategies as needed.

The division between child-guided and adult-guided learning is not rigid and for any content area, it evolves over time. Take language and literacy as an example. Young children begin to build their speaking and listening skills through spontaneous and natural conversations (child-guided experience). However, they also learn syntax and vocabulary from adults, and teachers often make a point of introducing new words and more complex sentence structures (adult-guided experience). Likewise, while children are born with the capacity to hear and reproduce the sounds of speech, and are inherently motivated to communicate (child-guided), identifying the letters of the alphabet is not something that children can do intuitively. Letter forms and their names are culturally determined and are thus learned from knowledgeable grown-ups (adult-guided). Intentional teaching defines what types of learning are best scaffolded—supported and gently extended—by each type of experience and lays out the strategies for doing so.

Intentional teaching begins with these general best practices: *structuring the physical learning environment* by using space and materials to accommodate children's diverse interests, families and cultures, languages, developmental levels, and special needs; *scheduling the program day* to offer a rich and varied mix of learning opportunities in a supportive framework of routine; *interacting with children* in a warm and authentic manner to encourage initiative and social relationships; *building relationships with families* to establish mutual respect, share information, and extend school learning into the home; and *assessing children's development* with validated methods to plan for the child- and adult-guided strategies that will further support growth.

Topics and Teaching Strategies in Intentional Teaching

With these basics in place, intentional teaching then draws on current child development and educational research to identify child- and adult-guided topics and teaching strategies in each of eight content areas: approaches to learning, social and emotional learning, physical development and health, language and literacy, mathematics, science, social studies, and the creative arts.

In the area of *approaches to learning*, intentional teaching is organized as follows:

1. Openness to experiences (exploring materials, ideas, people, and events)
 - Child-guided experiences foster taking the initiative and engaging with materials.
 - Adult-guided experiences foster planning and engaging with ideas.
2. Processing experiences (dealing with the physical and interpersonal environment during and after a learning experience)
 - Child-guided experiences foster solving problems and using resources.
 - Adult-guided experiences foster reflecting and following up.

In the area of *social and emotional learning*, intentional teaching is organized as follows:

1. Emotional learning (understanding, labeling, expressing, and regulating feelings)
 - Child-guided experiences foster developing a positive self-identity and feeling empathy.
 - Adult-guided experiences foster developing feelings of competence and recognizing and labeling emotions.
2. Social learning (relating to others and understanding social conventions)
 - Child-guided experiences foster developing a sense of community; building relationships; and engaging in cooperative play.
 - Adult-guided experiences foster engaging in conflict resolution and developing a framework for moral behavior.

In the area of *physical development and health*, intentional teaching is organized as follows:

1. Movement skills (developing physical or motor abilities)
 - Child-guided experiences foster *locomotor skills*: crawling, walking, running, climbing; *stability skills*: turning, twisting, bending, straightening, curling, stretching/extending, swinging, swaying, pushing, pulling, rising, falling, dodging, stopping; *manipulative skills*: throwing, kicking; and *fine-motor skills and eye-hand coordination*: grasping, pinching, tearing.
 - Adult-guided experiences foster *locomotor skills*: hopping, galloping, sliding, slithering, marching, plodding, leaping, chasing, fleeing, skipping; *stability skills*: transferring weight, balancing, jumping/landing, rolling; *manipulative skills*: catching/collecting, dribbling, volleying, punting, striking with a racket, striking with a long-handled instrument; and *fine-motor skills and eye-hand coordination*: cutting, folding, writing.

2. Movement concepts (understanding where, how, and in relation to what the body moves)
 - Child-guided experiences foster *space awareness*: self space, shared space; *effort awareness*: time (speeds); and *body awareness*: with self (body parts, body shapes).
 - Adult-guided experiences foster *space awareness*: levels, directions, pathways; *effort awareness*: time (rhythms), force, control/flow; and *body awareness*: with self (roles) with other movers and objects.
3. Personal care and healthy behavior (taking care of one's bodily needs and health)
 - Child-guided experiences foster feeding and dressing oneself (using serving and eating utensils; putting on and taking off outerwear, shoes, dress-up clothes) and exercising.
 - Adult-guided experiences foster washing hands and brushing teeth; practicing personal hygiene; differentiating between healthy and unhealthy foods; and following safety procedures.

In the area of *language and literacy*, intentional teaching is organized as follows:

1. Language (developing competency in speaking, listening, and comprehending)
 - Child-guided experiences foster sound awareness and production; conversational skills; and dual language learning.
 - Adult-guided experiences foster phonological awareness; vocabulary; and knowledge of narrative/comprehension.
2. Reading (understanding how print works and the relationship between spoken and written language)
 - Child-guided experiences foster visual discrimination skills; environmental print knowledge; print awareness; and motivation to interact with printed materials.
 - Adult-guided experiences foster understanding the relationship between

spoken and written language as well as alphabet knowledge: letter identification and letter-sound knowledge.

3. Writing (creating and using print to convey or represent one's ideas)
 - Child-guided experiences foster fine-motor skills and awareness of the purposes and functions of writing.
 - Adult-guided experiences foster letter and word writing and awareness of the conventions of spelling, grammar, syntax, and punctuation.

In the area of *mathematics*, intentional teaching is organized as follows:

1. Number and operations (understanding what numbers are and how they work)
 - Child-guided experiences foster intuiting number and its properties and performing informal arithmetic.
 - Adult-guided experiences foster counting and numeration and performing simple arithmetic.
2. Geometry and spatial sense (understanding shapes and relationships between objects)
 - Child-guided experiences foster familiarity with two- and three-dimensional shapes and orienting self and objects in space.
 - Adult-guided experiences foster creating, naming, and transforming shapes and articulating position, location, direction, and distance.
3. Measurement (determining quantity and learning proper measuring techniques)
 - Child-guided experiences foster comparing (seriating) or estimating without counting or measuring.
 - Adult-guided experiences foster counting or measuring to quantify differences.
4. Patterns, functions, and algebra (identifying patterns and describing change)
 - Child-guided experiences foster recognizing, copying, and creating simple patterns and recognizing naturally occurring change.

- Adult-guided experiences foster identifying and extending complex patterns and controlling change.

5. *Data analysis* (collecting, categorizing, representing, interpreting, and applying information)
 - Child-guided experiences foster making collections and sorting (classifying) by quantitative attributes.
 - Adult-guided experiences foster representing gathered information and interpreting and applying information.

In the area of *science*, intentional teaching is organized as follows:

1. Scientific procedure (using the scientific method to learn about the world)
 - Child-guided experiences foster observing and classifying.
 - Adult-guided experiences foster experimenting; predicting; and drawing conclusions.
2. *Learning and sharing scientific ideas* (developing and communicating one's scientific understanding)
 - Child-guided experiences foster learning about tools and technology as well as communicating ideas.
 - Adult-guided experiences foster learning about the natural world and learning about the physical world.

In the area of *social studies*, intentional teaching is organized as follows:

1. Social systems (learning the norms, values, and procedures that affect human relationships)
 - Child-guided experiences foster valuing diversity and learning about community roles.
 - Adult-guided experiences foster creating and following rules and creating and participating in a democracy.

2. Social concepts (becoming familiar with basic ideas in economics, history, geography, and ecology)

- Child-guided experiences foster understanding simple economics and understanding history.
- Adult-guided experiences foster understanding geography and appreciating ecology.

In the area of *creative arts*, intentional teaching is organized as follows:

1. Visual art (creating with two- and three-dimensional materials)

- Child-guided experiences foster manipulating two- and three-dimensional art materials; making representations from experience; making accidental representations; and making simple representations.
- Adult-guided experiences foster naming art materials, tools, and actions; becoming adept at using two- and three-dimensional art materials and tools; making representations using imagination; making intentional representations; and making complex representations.

2. Music (creating with sound)

- Child-guided experiences foster exploring sounds; exploring the voice; and playing simple musical instruments.
- Adult-guided experiences foster singing and understanding rhythmic and tonal qualities.

3. Movement (creating by moving the body)

- Child-guided experiences foster moving the body in different ways and imitating simple movements.
- Adult-guided experiences foster imitating complex movements and creating movement sequences.

4. *Dramatic (pretend) play* (creating play scenarios by imitation and invention)

- Child-guided experiences foster imitating gestures, sounds, and words; using simple props; and pretending alone or with one other person.
- Adult-guided experiences foster imagining characters and events; creating complex props; and pretending with two or more people.

5. Art appreciation (understanding artistic expression and making aesthetic choices)

- Child-guided experiences foster focusing on one aspect of a work of art; making simple aesthetic choices; and recognizing and understanding the feelings expressed through art.
- Adult-guided experiences foster naming artistic media, elements, and techniques; focusing on multiple aspects of a work of art; articulating the reasons for aesthetic choices; describing the feelings expressed through art; and recognizing cultural and temporal influences on art.

Intentional teaching is increasingly recognized as an essential component of program quality. It is a policy position of the National Association of Early Childhood Specialists in State Departments of Education that teachers receive training in providing intentional and appropriate instruction.

Ann S. Epstein

See also Approaches to Early Mathematics Instruction; Approaches to Learning; Arts Integration; Early Childhood Science Experiences; Literacy; Moral Dimensions of Teaching; Physical Education; Science; Social Studies Topics

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INTERDISCIPLINARY MODELS

Interdisciplinary models of contemporary early childhood education refer to models that have their roots in developmental psychology, educational psychology, and related fields and have implications for practice today. This entry focuses on three types of models that have received recent attention and had a significant influence on early education, especially for children from the age of 3 through the first years of formal schooling. These models emphasize the need for intentional teacher–child interactions, family involvement and support, and community resources to foster children’s learning and development.

Background

Early childhood education, especially high-quality PreK–3 education, is now widely recognized as one of the best ways to improve the academic achievement and well-being of children from varied backgrounds. This recognition is partly due to the enormous amount of research conducted in the past two decades establishing the positive effects of high-quality programs for children and their families, at least in the short term. These efforts have, in turn, led to the creation of models to examine the links among

features of programs and positive child outcomes that have lasting effects.

The models briefly described in this entry were selected because they integrate multiple theoretical perspectives and extensive research, as well as attempt to inspire and explain effective programs and practices. These models have some basis in the following theories:

- Urie Bronfenbrenner’s bioecological theory
- Jean Piaget’s constructivist theory of cognitive development
- Lev Vygotsky’s sociocultural theory
- John Bowlby’s and Mary Ainsworth’s attachment theory
- Social learning theories, such as Albert Bandura’s
- Self-determination and other theories of motivation

In addition, the three models incorporate recent research on how children develop competencies within general domains (e.g., physical, cognitive, social) and knowledge domains (e.g., literacy, mathematics), as well as on key processes that underlie or contribute to these competencies (e.g., self-regulation, relationships) in early educational settings.

Models and Programs

Transactional Models

Transactional developmental models focus on actual interactions or exchanges between teachers and children (or between child peers or children and materials) that are sustained over time in classrooms and directly affect children’s learning and development. According to bioecological theorists, these exchanges are “proximal processes” (within microsystems) that are reciprocal and bi-directional in nature, and are affected by structural features of program quality, such as teacher education, teacher–child ratios, and classroom materials, as well as distal processes and systems, such as state regulations and financial support of early childhood programs.

Transactional models are unique in the extent to which they focus on everyday interactions in

classrooms (especially teacher–child exchanges), consider children’s and teachers’ attributes and contributions to these exchanges, and examine specific skills developed through these exchanges over time. Clair Cameron has described a transactional model that looks at exchanges between children and teachers with attributes shown in previous research to be critical for adaptive functioning. For example, child attributes include their biologically based temperaments that affect abilities to control emotions and behavioral impulses; their foundational cognitive processes (e.g., executive function), motor skills (e.g., body movement, word articulation), and approaches (e.g., curiosity, persistence) that affect later learning; their emergent academic skills (e.g., literacy, math concepts); and their physical health. Teacher attributes include their self-efficacy or perceived abilities to enhance children’s learning in different domains and their classroom management and organizational skills.

Importantly, these personal attributes influence the number of transactions that occur between teachers and children in major domains of learning (e.g., language and literacy, social and emotional skills), and the extent to which the transactions are appropriate for the child’s skill level. The model posits that both the quantity and quality of these transactions determine the potential for children to develop competencies in a particular domain. For example, a child with aggressive tendencies may experience limited opportunities for positive exchanges with teachers to support his or her literacy development, especially with teachers with low self-efficacy.

One well-known intervention program that focuses on teacher–child transactions is *Tools of the Mind*, developed and studied extensively by Elena Bodrova and Deborah Leong and others. Preschool teachers are trained to provide learning activities that promote children’s self-regulation or executive function and related skills, by ensuring that they interact with children individually and attend to their interests and skills. For example, one activity requires teachers to help children create plans for their play, put these plans in drawing

or written form, and follow the plans throughout the day. Studies suggest that the *Tools* program enhances children’s executive function, language and literacy skills, and social skills.

Another example of a transactional model is the *Teaching Through Interaction (TTI)* framework developed by Bridget Hamre, Robert Pianta, and others. The TTI model also focuses on proximal processes (within a bioecological system), and is grounded in multiple theoretical perspectives and empirical research. The everyday interactions, especially between teachers and children, are classified into three general domains: emotional support, classroom organization, and instructional support. The emotional support domain focuses on interactions that produce a positive classroom climate, enhance teacher sensitivity to children’s needs for positive relationships and autonomy, and demonstrate respect for children’s interests and perspectives. The classroom organization domain focuses on enhancing self-regulatory and other skills that underlie many social and academic skills important for school adjustment and success. Effective interactions in this domain include proactive management strategies, efficient use of instructional time (maximizing opportunities to learn), and provision of engaging activities and materials. The instructional support domain encompasses activities that enhance higher-order thinking skills, incorporate clear and positive feedback, and facilitate sophisticated language use. Multiple studies have confirmed the value of these kinds of activities for fostering children’s learning and development in early educational programs.

The TTI framework has led to the development of a teacher professional development system—*MyTeachingPartner (MTP)*—that emphasizes intentionality and reflection on interactions in the three domains. Elements of the system include having teachers view video clips of high-quality teacher–child interactions, record their own classroom practices and discuss these with coaches, and make plans for improving interactions with children. Initial studies indicated that preschool teachers who participated in more elements of the system (including consultation) improved the quality of

their interactions with children in several domains, and children in their classrooms also made gains in academic and social skills.

Collaborative Parent–Professional Partnership Models

Collaborative partnership models in early education, focusing on relationships between parents and early childhood educators and other professionals, also stem from a bioecological framework and other developmental theories. They examine professional–parent–child interactions within settings (microsystems) and connections between settings (mesosystems), such as home and school, and their influences on children’s learning and development. Susan Sheridan, Lisa Knoche, Christine Marvin, and their colleagues propose four key components of collaborative partnership models: (1) a focus on enhancing parent–child interactions, (2) the use of “natural teaching” in everyday activities, (3) the use of a data-based, problem-solving approach, and (4) the use of evidence-based practices.

The first key component involves having early educators or interventionists observe, support, and enhance parent–child interactions as they occur. This can be done through noting parents’ strengths, attending to children’s responsive behaviors and developing competencies, providing developmental information, and modeling positive strategies to support and engage children in learning. The second component of the model involves teaching parents to identify and nurture natural learning opportunities within everyday activities in different settings (e.g., home, park, shopping) to foster children’s developing language, social, and other skills. The third component involves a structured, problem-solving approach to promote positive child outcomes as well as parent skills. This approach includes identifying shared goals for children, collecting and analyzing pertinent data (e.g., observations, reports), developing strategies to promote goals and address concerns, and evaluating the effectiveness of the strategies. The process can be provided by an early educator working collaboratively with family members, and might

also be facilitated by a professional consultant (e.g., mental health provider, special educator). The final component stipulates that the strategies included in intervention plans be based on evidence-based practices, such as research on effective ways to help children regulate their behavior and emotions.

A number of effective intervention approaches can be described according to some or all of these components, such as The Incredible Years parent training program developed by Carolyn Webster-Stratton and her colleagues. The Getting Ready intervention is introduced here because it incorporates components of a collaborative parent–professional partnership model, and emphasizes promoting the relationship between parents and early education professionals. The Getting Ready intervention is integrated within early education programs such as Head Start and takes place during regular home visits or group meetings. This intervention was designed by Susan Sheridan and others to enhance children’s readiness for formal schooling and incorporates the following general strategies:

- Establish and maintain parent–professional relationships, through listening and responding to parent priorities and concerns
- Share observations/knowledge of child’s progress
- Identify shared developmental expectations for child
- Brainstorm ideas for helping child meet expectations
- Observe parent–child interactions and provide feedback
- Monitor the child’s development and discuss needed adjustments in interactions and/or learning opportunities

Studies suggest that the Getting Ready intervention can be implemented with fidelity by early childhood professionals and has a positive influence on parenting behavior as well as pre-school children’s socioemotional and language and literacy skills.

Another example of a well-regarded collaborative parent–professional model is the Yale Child

Study Center School Development Program (SDP) developed by James Comer. Although this model was originally intended to reform elementary schools, it was later applied to the education of younger children in the Comer/Zigler Initiative (CoZi), which combined the SDP with Edward F. Zigler's School of the 21st Century (21C). At the heart of the SDP is the notion that schools must attend to all aspects of children's development (e.g., physical, cognitive, psychological, ethical) to foster optimal learning. In addition, meaningful learning occurs through positive relationships with adults in the school and community.

The SDP provides an operating system to ensure adults work together to support children's learning and development. This system involves three teams—a parent team, a school management team, and a student and staff support team—who work separately and collaboratively on a comprehensive school plan to set and monitor selected social and academic climate goals. The school plan inspires assessment and modification of practices as well as staff development goals. The success of the SDP, implemented in more than 1,000 U.S. schools, is attributed in large part to the guidelines established for enhancing relationships and interactions between team members. These guidelines include no-fault problem solving, consensus decision making, and collaborative efforts focused on fostering the development of children. Many studies have demonstrated the effectiveness of the SDP for enhancing the social climate of schools as well as student academic achievement.

Community School Models

Community school models encourage public schools to promote school readiness and academic success by supporting families and children from birth, especially those living in poverty. Such models can include services such as high-quality child care, parent education, and referrals to other community services (e.g., health care, developmental screening). This is a comprehensive model in its inclusion of multiple ecosystem influences and connections, stimulated by research demonstrating

the serious need for access to high-quality programs and services in the United States to help support families during the critical early childhood years. This model is also supported by recent research showing the importance of easing transitions between home and school, and preschool and kindergarten, for children's adjustment in school and later learning.

The School of the 21st Century (21C) model emphasizes promotion of children's development across domains through fostering positive relationships with parents, and providing (noncompulsory) access to a range of family support services. 21C incorporates six program components: (1) family outreach (e.g., home visits, playgroups, workshops), (2) high-quality child care for children ages 3 to 5, (3) before- and after-school programs for school-age children, (4) community-based health care services (e.g., nutrition and fitness, physical and mental health), (5) training and support for local child care providers, and (6) other information and referral services. 21C has been incorporated in over 1,300 schools, and a national evaluation study indicated that the preschool and child care programs were of higher quality and the attending children had higher achievement scores through second grade than those in other large-scale studies.

These interdisciplinary models include elements of early educational programs that are important, if not essential, for improving practice and fostering children's learning and development.

Denise Daniels

See also Attachment and Stress; Bioecological Theory; Constructivism; Cultural Diversity; Theory to Practice in Early Childhood Education and Care

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INTERNSHIPS

The term *internship* refers to a learning experience provided for selected and prepared individuals who desire to become professional practitioners. In teacher training in the United States, internship, which is also often called student teaching, refers to an extended field placement during initial teacher training in which prospective teachers (also called student teachers), assume teaching responsibilities in the classrooms of cooperating teachers. Internship in the field of education is usually preceded by observational participation and student teaching or equivalent clinical experiences in a school environment. It is planned and coordinated by the teacher education institution in cooperation with one or more school systems.

Overview

The internship is a widely accepted practice in teacher education and a critical experience toward preparing new teachers to be effective and successful in the classroom. The internship is in the final phase of a teacher education program designed to instill professional behavior. It is a time to focus on teaching and working with young children and their families under the guidance and support of cooperating teachers and university supervisors. The goal of the internship is to provide experiences in the classrooms with clinical teachers providing close supervision and mentoring and to facilitate the learning process for preservice teachers who lack classroom teaching experience.

In general, an internship includes classroom-based teaching and assessment experiences, observation, home visits, participation in eligibility meetings and individualized education programs, collaborative relationship building with professionals and families, and working-hour daily activities of the cooperating teacher. During an internship, student teachers are provided opportunities to work in applied early childhood settings under the supervision of cooperating teachers. The internship helps student teachers (a) gain and enhance their perceptions of teaching practices and the elements of teacher sensitivity and effectiveness, (b) develop pedagogical and content-specific knowledge, and (c) develop personal practical knowledge about the work of teaching. Furthermore, with the knowledge of teaching emerging directly from the activity of teaching, an internship provides prospective teachers with an opportunity to construct their own understandings of teaching based on the practical dilemmas they encounter in the field.

Cooperating Teacher

Cooperating teachers, who support and mentor interns, play a key role during the internship. Because an internship provides an apprentice-type introduction to teaching, cooperating teachers provide models of teaching behaviors and serve as gatekeepers to the experiential learning of preservice teachers. The intern's steady initiation into the classroom is carefully managed and monitored. Cooperating teachers serve as models who guide prospective teachers in applying theory and instructional approaches to real settings. It is believed that cooperating teachers significantly influence student teachers' beliefs about the teaching profession, professional norms, and teachers' decisions on content areas.

Cooperating teachers have an important responsibility to be a mentor and instructor in issues specific to their workplace and the needs of the children and families that are served. They are required to observe interns, provide feedback, make professional conversation, and collaborate successfully. With the assistance of the university supervisor, the cooperating teacher acts as a mentor

by providing support and guidance for the intern. The responsibilities of the cooperating teacher include encouraging interns to find their own teaching style, overseeing interns' planning, monitoring the interns learning about children and their families, and offering feedback.

Supervision

Supervision is a very important aspect of the development and induction of student teachers into the profession. Supervisors who are knowledgeable about the field help student teachers have support systems that encourage effective practice. The primary purpose of supervision is the improvement of teaching and learning through the acquisition of a deeper understanding of the learning-teaching process. Supervision focuses on the development of a professionally responsible teacher who questions his or her own performances, being receptive of others' advice and input.

The university supervisor serves as a link between the university and local child care centers, providing support and guidance to both the student interns and the cooperating teacher. The roles of the supervisor are to encourage interns to have smooth communication with the cooperating teacher and to observe and evaluate interns' performance in a classroom setting. The responsibilities of the university supervisor for the internship are to meet with the intern and cooperating teacher to establish internship expectations, determine a schedule, and encourage open communication and a collaborative approach to supporting and providing feedback to the intern.

The relationship between the supervisor and student intern is critical during the whole internship. It requires a close collaboration between the cooperating teacher and supervisor as colleagues, respecting each other's contribution. In spite of the great importance of supervision in an internship, supervisors face several challenges and difficulties, including difficulty in balancing support and assessment of student teachers, unclear role and program expectations stemming from a lack of preparation and support for university supervisors, and cultural norms of schools and classrooms.

Challenges

The National Council on Teacher Quality has revealed several challenges that student teaching in the United States faces. First, teacher preparation programs often have more students than can be provided a quality student teaching experience in local school districts. Second, a substantial number of interns are improperly supervised by their own institution. Third, institutions do not provide sufficiently clear and systematic descriptions about the qualification of cooperating teachers. Fourth, due to the dependence of institutions on school districts to provide intern placements, institutions convey inability, especially in the selection of the cooperating teachers. Last, not many institutions provide interns with adequate guidance and feedback on their abilities as a teacher.

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See also Early Childhood Teacher Education; Preservice Teacher Preparation; Student Teaching and Internships, Issues in

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INTERPRETING ASSESSMENT DATA

Interpreting assessment data is a process of understanding the purpose, design, and scores of assessments. Proper interpretation provides information

on how children are doing in comparison to other children their age, how they are progressing over time, and how information relates to the goals of a teacher, curriculum, or early childhood program. Data literacy skills and connection of the measures to the intentions of teaching will aid interpretation. This entry focuses primarily on the interpretation of norm-referenced assessments, because these assessments often come with a variety of scores and numbers that require specialized knowledge to interpret and understand. Direct assessments that do not follow standard procedures are also discussed. In addition to direct assessments of children, this entry briefly explores the interpretation of classroom quality assessments.

Overview

Early childhood professionals' interpretation of assessment data serves as the basis of evidence-based decision making to support children's learning and development. For professionals who are asked to interpret assessment data created by professional test developers, the results and implications of such results can be daunting. Interpreting assessment data improves with practice, like any skill, and can be a part of every early childhood professional's toolkit. Interpretation can be thought of as gaining insight into children's skills and abilities, and the environments which they experience.

Statistics Used in Assessment Reporting

Basic data literacy requires certain vocabulary. Terms used with child assessment results are defined below:

Sample: Large groups of children with whom the assessment has been conducted. These groups of children become the representatives of the population to which the norm-referenced assessments can be generalized. Scores from these children are used to create comparison data and allow any one child's scores on the assessment to be compared to this group. To allow children across the nation to be compared, the sample will need to include

groups of children from across the nation, representing multiple race, ethnic, and socioeconomic subgroups. This group is also referred to as the norm group or normative sample, because it is the group representing a normal distribution of scores.

Mean: The arithmetic average of a group of scores, calculated by summing all of the scores and dividing by the number of scores.

Percentile Rank: A ranking based on the norm group that represents the percentage of the sample that scored at or below the same score.

Standard Score: A ranking based on the norm group that represents how children are doing in comparison to their similar-age peers, with a certain number set as a mean, and significant differences from the mean being interpreted in terms of the standard deviation. (A confusing overlap exists in the use of the word *standardized*. A standardized assessment is conducted with all children in the same way. A standard score is norm-referenced.)

Standard Deviation: This number represents the spread of the scores within the sample distribution. The formula is primarily based on how all of the scores differ, or deviate, from the mean.

Standard Error of Measurement (SEM): This number measures how much error is part of a test. It has a reciprocal relationship with reliability, in that the more reliable a measure is, the less error it has. SEM can be used to construct confidence intervals around a score, in this way: Score (+/-) SEM.

Confidence Interval: A range within which one can be confident that the child's score would fall if the child were to, theoretically, be assessed multiple times.

Questions of Interpretation

Questions framing the interpretation of assessment data for young children include the following: (1) Are they on target for their age? (2) Are they progressing appropriately? (3) Are they meeting specific benchmarks of learning and development?

Assessing whether children are on target for their age will typically be conducted through a structured assessment or observation. However, the structure of assessment can be discreet, with the child not knowing that he or she is being assessed, such as with a portfolio of the child's work or a structured observation of play. With these kinds of assessments, the recommendations of WestEd's PITC (Program for Infant Toddler Care) curriculum are helpful. The program recommends three steps: watch, ask, and adapt—meaning that adults should watch the child's responses, ask themselves what they mean, and adapt to them. This is an ongoing process of intentionally attempting to understand various aspects of development, the child's environment, and the connections between environment, behavior, and development and learning.

While ongoing observation and consideration of children's work are important ways to understand children without disrupting their play, they are open to interpretation by professionals who may have large variations in their training and understanding of child development. Even highly trained professionals can fail to notice that a child may need intervention due to a well-intentioned focus on the child's strengths. Therefore, direct assessments of children provide structure to the question of how a child is doing compared to other children his or her age. These also vary in form and interpretation from a checklist of tasks to more rigorously developed standardized assessments.

For checklists, the final score may be a sum of the number of tasks the child could perform. This sum is compared to a range of scores that can be interpreted in two ways—(1) the child did perform as well as peers of similar age or (2) the child did not perform as well as peers of similar age. While this type of assessment is valued for the ease of administration, with some items possible to observe in the child's natural play, a limitation is the specificity of interpretation. That is, one can only gather from this assessment that a child is or is not developing typically, according to what was observed that day. However, one cannot gather from this type of assessment if there is a large or small difference

in a child's performance compared to other children his or her age.

A norm-referenced, standardized assessment can give this kind of information with more detail. Understanding some basics about how norm-referenced assessments are developed and how they are reported is essential to interpreting this data. Norm-referenced assessments are primarily used to compare children to other children like them. Thus, the term *norm-referenced* tells one that the assessment will refer to a normative group of children who are approximately the same age or grade.

The standard score is named thus because the range of each norm groups' raw scores are standardized so that the *mean*, or arithmetic average, score for each norm group is assigned the same score. Scores more than 1 and less than 2 standard deviations from the mean should be given more attention, as they are slightly outside the area of typical development. Scores more than 2 standard deviations from the mean should alert the educator that the child's score is typical for only 2.5% of the highest or 2.5% of the lowest scores in the norm group. These rare scores may indicate that the child has a particular strength in this area or is possibly in need of professional assistance.

A second question early childhood professionals will ask when interpreting data is "Are the children in my care progressing appropriately?" Teachers want to know how children are doing over time. This can be accomplished through ongoing observations such as those developed by HighScope COR and Teaching Strategies GOLD. Ongoing authentic assessment, conducted while the child is at play in his or her typical environment, captures anecdotal data that can be analyzed and compared over time. Collection and interpretation of these data requires training by the developers of the observational tools.

In addition to norm-referenced scores that compare a child to other children of the same age, some standardized assessments provide a *growth scale value*. A growth scale value is a score that can be compared from one assessment to another to understand children's increase or decrease of knowledge, skills, or abilities. Growth scale values

can be interpreted as a change in children's performance, with guidance on significant change often provided by the technical manual of the assessment.

A balance between standardized assessments and more authentic assessments are measures created for progress monitoring, such as the Individual Growth and Development Indicators (IGDIs) for Infants and Toddlers. The use of progress monitoring is particularly important for early interventionists who can plan and implement ways to assist children with, or at risk of, developmental delays. However, progress monitoring can also be used with typically developing children. Dale Walker, Judith J. Carta, Charles R. Greenwood, and Joseph F. Buzhardt describe the use of these measures to assist in interpreting and using data on children's development over time.

Interpreting child assessment data of ongoing observation and standardized assessments gives insights into how children are doing compared to others their age and how children are progressing. The actions taken in response to these interpretations are outside the scope of this entry. However, some assessments give more insight into what to do next, as they are designed around particular standards and objectives. These assessments, known as *criterion-referenced assessments*, are interpreted simply by whether or not certain objectives are met. Curriculum-based assessments and some classroom quality observations are examples of these kinds of assessments. Criterion-referenced assessments provide scores that are intended to be compared to a set of standards or objectives. A criterion-referenced test would indicate which children in a class mastered each particular skill or concept. Thus, criterion-referenced tests usually categorize children into groups—those who have mastered the material and those who have not, and sometimes those who are performing ahead of expectations. Interpretation can lead to insight when teacher or program goals are compared to the met and unmet criteria, with goals driving attention.

Classroom Quality Assessments

In the same way that child assessments are to be used to make better decisions about teaching and

caring for children, classroom quality observations can serve the same purpose. They resemble criterion-referenced assessments, as observers will look for evidence of certain aspects of quality.

Observational assessments such as the Environment Rating Scales (ERS) and the Classroom Assessment Scoring Systems (CLASS) are common measures. Higher scores are generally indicative of environments and interactions that are better for children, while lower scores may be indicative of unacceptable environments and interactions with children. However, some research indicates ceiling threshold of quality, above which the relationship to child benefits is not observed. Additionally, some items and scales are typically low, which could be an aspect of quality or an issue with the measure. Thresholds and low variability in the scales need to be investigated further to better inform programs about the usefulness of the scales. Until then, interpretation should be cautious and related to the stated purpose of the measures.

Both the ERS and CLASS family of observations are broken down into subscales, measuring various aspects of structural and process quality. Insights from these observational measures can be gained by examining the pattern of scores across the subscales. If the content of the subscales match goals of the teacher or program, these may be areas of focus for interpretation.

Shannon S. Guss

See also Assessment, Limitations of; Early Intervention; Quality; Reliability and Validity in Child Assessment; Standardized Assessment

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IPA/USA AMERICAN ASSOCIATION FOR THE CHILD'S RIGHT TO PLAY

IPA/USA is the American affiliate of the International Play Association. The purpose of the organization, founded in 1961 in Denmark, is to protect, preserve, and promote play as a fundamental right for all humans. The ideas behind the organization date back over 90 years to when Save the Children founder Eglantyne Jebb drafted the Declaration of the Rights of the Child in 1923. An expanded version of this proclamation was adopted by the United Nations General Assembly on November 20, 1959, as the Declaration of the Rights of the Child, which added five more principles to make 10

principles. Principle 9 of the 1959 Declaration of Rights addresses the child's right for "full opportunity to play and recreation" (UNICEF, n.d.). In addition, November 20 was adopted as the Universal Children's Day.

Interest in providing quality play opportunities for children had been gradually increasing over the decades before the signing of the Declaration of the Rights of the Child, and in 1955 a major seminar on playgrounds was held in Europe. The need for international action was evident, leading to the formation of IPA, which held its first conference in Copenhagen in 1961. Since then it has held 18 other international conference and plans to hold its 2017 conference in Calgary, Alberta, Canada.

The United Nations International Year of the Child in 1979 injected IPA with new energy. IPA originally emphasized adventure playgrounds, but gradually changed its focus to play itself and to the child's right to play. In the 1980s, IPA played a role in making sure the word *play* was included in Article 31 of the UN Convention on the Rights of the Child, which strengthened the Declaration of Rights of 1959.

In 1989, the Convention on the Rights of the Child (CRC) was adopted by the UN General Assembly, and it went into force the following year in the countries that agreed to be bound by its terms. As of October 1, 2015, when Somalia ratified the CRC, the United States remained the only country that had not ratified it. The Convention consists of 54 articles that address the basic human rights entitled by children around the globe. Article 31 specifically addresses the child's right to play:

1. States Parties recognize the right of the child to rest and leisure, to engage in play and recreational activities appropriate to the age of the child and to participate freely in cultural life and the arts.
2. States Parties shall respect and promote the right of the child to participate fully in cultural and artistic life and shall encourage the provision of appropriate and equal opportunities for cultural, artistic, recreational and leisure activity. (OHCHR, n.d.)

The American Association for the Child's Right to Play (IPA/USA) was formed in Philadelphia in 1973 as the U.S. affiliate of the international organization. The beginnings of IPA/USA started with playground creator and author Paul Hogan's 1967 trip to Europe. Hogan was checking out adventure playgrounds in London with Lady Allen of Hurtwood (founder of the World Organization for Early Childhood Education, known by its French acronym, OMEP) when he first learned about IPA and began attending its meetings. The United States had IPA members before the affiliate was formed by Hogan. Mrs. Thomas Hess of Greenwich, Connecticut, was the first American member, and Pacific Oaks College and Children's School in Pasadena, California, was the first American organizational member, having joined in 1969.

By the early 1970s, IPA/USA membership had grown to the point that a national representative was selected to send to IPA World Council meetings held at the triennial IPA meetings. The first U.S. representative was Paul Hogan, who attended the 1975 Milan meeting 2 years after IPA/USA was formed. The first president of IPA/USA was not "elected." While attending that 1975 conference, Hogan met Muriel Otter, the IPA secretary, and she declared that he would be president of IPA/USA. Hogan consequently started *PlayPlans* magazine and began to secure subscribers and more members for IPA/USA.

Elaine Ostroff followed Hogan as the U.S. representative to the international conferences. Donna Seline attended the Ottawa IPA conference in 1978 and was appointed U.S. national representative by IPA President Polly Hill of Canada. Seline organized a regional IPA/USA conference in 1980 at the University of Minnesota with keynote speakers Hill and Brian Sutton-Smith. A subsequent national IPA/USA conference was held in 1983 at the University of Minnesota with keynote speakers Janet McLean and Joe Frost.

In June 1983, the International Conference on Play and Play Environments—sponsored by IPA/USA and 12 other state, national, and international organizations—was held at the University of Texas at Austin. This was reputed to be the

largest gathering of play scholars ever convened, with more than 500 participants from 12 nations. At this conference, plans were initiated for a more formal organization of IPA/USA and for the 1986 national conference in Cincinnati. In July 1985, Seline submitted her resignation as national representative, effective April 1986.

In February 1986, Seline initiated calls for nominations for a formal board of directors for IPA/USA and a mail election was held. Elected for 2-year terms were Frost (president and U.S. representative), Sue Wortham (treasurer and membership coordinator), Marcy Guddemi (newsletter editor), and board members Jay Beckwith, Harris Forusz, Roger Hart, Robin Moore, and Barbara Sampson.

A USA/IPA national conference was organized by Forusz in 1986 and was hosted by Adventure Playgrounds, Inc. and the University of Cincinnati. Formal resolutions were agreed upon, including a pronouncement of support for the IPA 1977 Declaration of the Child's Right to Play, adopted in Malta in 1977 and revised in Vienna in 1982. Additional details for modifying incorporation and bylaws documents were addressed. Moore and Frost participated in the 1986 World Council IPA meeting and special International Year of Peace seminar in Birmingham, England. During this period a number of adventure playgrounds were developed in the United States. By 1987, IPA included members from 50 countries.

Thirty-five Americans attended the 1987 World Congress in Stockholm. By 1988 IPA/USA membership had grown to 165. In 1988 Tom Jambor was elected president and in that year the national conference was held in Washington, D.C., directed by Barbara Sampson, Moore, and Seline. Board members were Jambor (president), Stapel (treasurer), Guddemi (newsletter editor), and board members Duraid Da'as, Robin Epstein, Forusz, Hogan, Lulu King, Mary Lillie, Ruth Morrison, Jack Pentes, Donna Seline, Randy Smith, Frank Rudloff, and William Weisz. In January 1989, this expanded board met in Cincinnati and made plans for expanding revenue, the newsletter, and membership, and creating a clearinghouse on information. At the Tokyo conference in 1990, Moore of

IPA/USA, already an IPA international officer, was the first American to be elected IPA president.

With these patterns in place, IPA/USA programs continued to expand to the present time and include community PlayDays, annual play advocacy presentations at national conferences, semianual national IPA/USA conferences, promoting the international IPA conference, preparing and distributing materials for parents and school administrators promoting advocacy for and reinstatement of school recess, media campaigns for recess and outdoor play, and multiple efforts to support and gain awareness of the value of play and the child's right to play. National conferences were held jointly with the Association for the Study of Play at the Strong Museum of Play in 2007, Georgia State University in 2010, and Clemson University in 2013.

Membership in IPA/USA is open to any individual, group, or organization that endorses the right of children to play, stated in the 1959 Declaration of the Rights of the Child and in the 1989 Convention on the Rights of the Child. IPA/USA holds a national conference every 3 years and sponsors or cosponsors workshops and symposia from time to time. The *IPA/USA eJournal*, available on the IPA/USA website, is a peer-reviewed publication that features articles on play environments, safety,

toys and materials, play leadership, and the role of play in child development. IPA publishes an international journal called *PlayRights* and hosts a World Conference every 3 years.

Marcy Guddemi

See also Child-Initiated Play; Free Play, Importance of; Parent and Family Influences on Active Free Play; Peers and Play; Play, Benefits of; Play, Definition of; Play, Nature of; Play and Early Childhood Education; Rough and Tumble Play

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J

JOYFUL LEARNING

Educators, developmental psychologists, and philosophers all describe a process that contemporary educators refer to as joyful learning. Socrates in his “questioning method,” Piaget’s “assimilation and accommodation,” Montessori’s reference to “normalization,” Dewey’s emphasis on experiential learning, and Csikszentmihalyi’s description of “flow” all give us insight into the phenomenon of joyful learning. For young children, joyful learning is facilitated by those teaching from a perspective of constructivism—believing that “children construct knowledge through interaction between their own ideas and experiences in the social and physical world” (Chaille, 2008, p. 5). Joyful learning experiences support the child’s growth both socially and cognitively.

According to Ward and Dahlmeier, joyful learning is a process that requires effort and includes making choices and making connections. Montessori refers to this effort resulting in joy when she describes a child as “one guided by his inward teacher, who labors indefatigably in joy and happiness” (1949/1994, p. 8)—a process she referred to as normalization.

Joyful learning has three essential components: engagement, exploration and discovery, and ownership. All three phases are critical in the joyful learning process. An activity might be classified as

“fun” and might be engaging, but unless the other two phases of the process are present, the fun is fleeting and the learning not enduring. Children may find watching a puppet show amusing and entertaining, but to invite joyful learning, the children would need to participate in creating puppets and producing their own show. A child might enjoy listening to a story, but to be a joyful learning experience, she needs to be involved in exploring the story, often through dialogic reading or shared reading. Finally, the child experiences ownership of the story through selection of the book as a play object, role-play reading, or returning to favorite pages. Part of the ownership phase is making future choices. The child, having had a positive, repetitive learning experience with this book, will choose another one.

Joyful learning can occur at any phase of development. According to Lewis (as cited by Ward & Dahlmeier, 2011, p. 95), “Joy is seen under two conditions by the middle of the first year: when the child comes in contact with a significant social other and when the child is able to demonstrate mastery over particular events.” Piaget described the learning mastery process of infants as circular reactions. As infants develop, they progress from repeating an accidentally discovered connection to their own bodies (such as kicking) to repeating an action on an object they have encountered accidentally (such as batting a rattle) to coordinating movement to repeat and vary the experience. A

child displays this example of joyful learning by repeatedly pushing a toy car across varied surfaces, expressing delight when it skids rapidly across a wooden floor. For the child in the preoperational phase, development and refinement of schema represent the third phase of joyful learning.

Vygotsky, also a constructivist, noted the importance of sociability in many joyful learning experiences. The infant who mirrors a smiling face and then later shows expressions of delight when she sees her special caregiver shows joyful learning. The child who observes and participates in an activity that offers an obtainable challenge and then explores until he, too, is able to complete this task is experiencing joyful learning in a social context.

Joyful learning experiences in classrooms involve a journey that the teacher and child share. Both are teachers and both are learners. For those teachers who establish a classroom for joyful learning, the explorations change year by year as the children take ownership. Their unique interests and experiences change the class. The teacher is the guide, responding to and enriching teachable moments and emerging interests. Inquiries and projects are undertaken in classrooms that inspire joyful, child-centered learning. For example, in Gina's early childhood class, the children decided to study whales after learning that classmate Harrison from Australia had seen whales. They created a life-size whale in the playground, then went on to study multiple sea creatures. The learning of these 5- to 6-year-old children was enhanced by the multiple connections they made—math in measuring the whale, language in speaking and writing about the sea and in using resources to find answers to their questions, biology as they explored the characteristics of land versus sea mammals and life cycles of whales, geography as they located areas of the world where one might see whales, and art as they created a whale and a sea mural.

Early childhood educator and author Mimi Brodsky Chenfeld similarly describes a preschool where the teachers and children dug a large hole for a to-be-delivered boat donated as a play environment. The discovery and learning that occurred

in the process led to a commitment to dig another hole to explore. The learning included language from conversation and new vocabulary, mathematical measuring, comparison and counting as treasures were unearthed, biology as creatures were discovered, geography as children mapped their imagined cities in the hole, and physical science as they noted the effects of rain and snow.

Both studies are examples of inquiry-based learning with the interest emerging from the children and the teachers enhancing the environment to maximize engagement, discovery, and ultimately ownership and reflection. The teachers did not control the learning, but rather facilitated the learning contributing to the joy of the process. Katz and Chard (2000) and Helm and Katz (2010) as well as proponents of the Reggio Emilia approach identify three phases of projects that align with our joyful learning phases. First is *getting started*, which equates with engagement, motivation, and in this case choosing a topic to explore in depth. Second is *field work*, which is a form of exploration of the topic. Finally is the *culminating event* and debriefing, which is the time for metacognition and reflection. This is the phase when the child takes ownership of her learning and makes choices for future learning.

Joyful learning experiences help children connect knowledge and skills, involve them in purposeful and active learning with choice, and connect children to their world. This learning might be through collaborative projects but can also be experienced individually. To support this learning, teachers and parents need to support children's choices and respect their individual rhythms and temperaments, give children time to explore their interests in a safe and nurturing environment, encourage discovery, and maintain dialogue among all members of the learning community.

Gay C. Ward and
Crystal Dahlmeier

See also Cognitive Developmental Theory;
Constructivism; Emergent Curriculum; Montessori
Programs and Environments; Project Approach;
Reggio Emilia Approach

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K

KEY WORDS

Sylvia Ashton-Warner's method of teaching beginning reading in English is used in many of the countries where English is spoken, especially when English is the child's second language. Ashton-Warner (1908–1984) was a White (*Pakeha*) New Zealand (*Aotearoa*) teacher who taught 4- and 5-year-old Maori children in a segregated school system in the 1930s, 1940s, and 1950s. Her most memorable contribution was Key Words, also called Organic Reading or Key Vocabulary. She first wrote about the method in her semi-autobiographical novel *Spinster* (1959) and chronicled it again in her educational book *Teacher* (1973); both were bestsellers.

The Key Words method begins most simply: Words are kept in envelopes with the children's names on them. The first lesson begins with the child the teacher has chosen for his or her exceptional interest in words picking his or her envelope out of a spread of three or four envelopes.

Teacher and child sit together (child on right-handed teacher's left, or on left-handed teacher's right, so child can see clearly what teacher is writing) and they talk. They are seeking, jointly, to find a word that is vital to the child, one that represents something important. Ashton-Warner often said these words come from sex and fear. When teacher and child agree that a word is the right one, the

teacher writes it on a card. Some examples: *mommy, daddy, monster, perfume, money*.

The teacher hands the card to the child, "I'm giving you *mommy*," asks the child to trace the writing on the card with his or her finger, makes sure the child knows what this word is, and then she hides the word in the deck of the child's cards. (At the first lesson she mixes up the new word with the envelope, which says the child's name . . . presto, two words.)

A day or two (but no longer) after the first lesson, the teacher reviews the words (child's name and *mommy*). If this child tends to be unfocused the teacher can remark, before asking the child to read them, "Yesterday I gave you a new word, *mommy*, and you already could read your name." One new word is given per day, but the word may be compound or two or three words (e.g., *sparkly ring* or *fancy pink dress*). The child will know the words (or the whole phrase). So the teacher can say, "You know your words, so you can have a new one."

To find the next new word, another discussion takes place. Remember, a key word is one both the child *and* the teacher think matters. As the child becomes familiar with this work, often he or she will run to the teacher, knowing what word *must* be given today. It is rare that the word is one like *chair* or *nose*, but often these will be words like *ice cream* or *baseball*.

The teacher shuffles the cards often, making sure that the words are *recognized*, not *remembered in sequence*. Some teachers have made the

error of putting cards on a ring, but that means that a child can learn that *mommy* follows *grandma*, instead of recognizing the configuration of letters and shapes.

The other children have seen this work and ask to do it themselves. The teacher keeps a list and calls them to him or her in sequence. By the fourth week (sooner with older children) all the children have joined in the work.

After each lesson the teacher puts the child's new word in a basket so that later in the day the children, sitting in a circle, read the new words to each other and tell important things about their new words, and then the words will be returned to the envelopes. This leads children to request words their friends have.

Any word a child can read can be put on a card and put into the envelope. At some point in the school year many children will be able to read all the names of the other children, having seen them on paintings and cubbies and so forth. This makes for a thick, satisfying envelope, proving to the children that they are gaining lots of words.

The method calls for lessons using this practice at least three times a week, but preferably every day. As lessons go on, there will be the occasional word that the child forgets. The teacher can ask, "Do you want to learn it or throw it away?" indicating by her tone of voice that there is *nothing wrong with* throwing a word away. Depending on the child's reply, they can practice hiding the word in the deck and finding it, or the child can put the card in the trash. If this is handled nonjudgmentally, the child continues to have an envelope with words that are powerful and meaningful to him or her. No words the child can't recognize should be in his or her envelope.

After the child has a fair number of words (maybe 15 or 20) the teacher can supply a verb. So, if the child has many people's names, the teacher gives *loves* or *likes* and then sets the words on the table so the child can read the three-word sentences that follow: *Jimmy loves mama; mama loves Jimmy*, etc. The reader who wants to go beyond this first experience of Key Words is advised to read Katie Johnson's *Doing Words*.

At the time Ashton-Warner was teaching in the Maori schools, the objective seemed to be to make White children out of the Maoris. Maori culture, history, and values were not part of the curriculum. Ashton-Warner had difficulty working under these conditions. She developed her method after failing to get the Maori children to read with the imported *Janet and John* books, which assumed a child familiar with trains and watering cans, not a child in the bush who knew canoes and horses. This made for a huge disconnect between the children and learning to read. Ashton-Warner reflected upon what she saw in her early childhood classroom: bright, communicative children who felt no connection to the bloodless vocabulary of these primers that had no content nor style nor rhythm that was artful or appealing. What these children cared about was relationship and story. The children's first language was Maori, and the *Janet and John* reading books were not only in English, but English from far-off England, halfway around the world (and they were revisions of American books!).

Ashton-Warner recognized and respected the individuality and creativity of the children. "The only time they show any sign of interest is when I let them draw" (Ashton-Warner, 1969, p. 35). Ashton-Warner found that if a personal set of words was chosen collaboratively by teacher and child, one word at a time, these un-illustrated words that name the pictures in the child's heart would be learned easily and stay learned. They are words of fear and of love, names of both the beloved and the scary beings that populate the child's imagination. The teacher and the child meet privately (amid the bustle of the primary classroom) and together find the word: *ghost, mommy, hot sauce, monster, perfume, or money*, which the teacher writes on a stiff card and puts in an envelope with the child's name on it. Over time, one word a day, the child collects his or her words.

A research study was conducted by Selma Wassermann, in 1971, when Ashton-Warner was teaching with Wassermann at Simon Fraser College in Vancouver, British Columbia. It found that children in the experimental and control groups

showed equal skills acquisition on the standardized tests used at that time and in that place. But the group studying key vocabulary and the control group exhibited substantial differences in a sentence-completion task, where the control group of 19 children reported themselves as readers finishing the sentence “When I read I . . .”

Eight completed the sentence with “read with my eyes,” two with “read quietly,” and two simply with “read.” One each completed the sentence with “read when my mother tells me to,” “read nice,” “will read,” “read science books,” “take a book,” “I don’t like it,” and “read in my mind.”

The experimental group of 24 children (whose teachers had been learning from Ashton-Warner) had different answers:

Seven completed the sentence with “feel happy.” And one each “I like reading the whole book,” “read it to the teacher,” “feel mad,” “am glad to read,” “read it carefully,” “feel okay,” “feel sad,” “I say good,” “read to my friend and my auntie,” “read a book,” “feel good,” “am very happy,” “read and after I finish I think of the story,” “am sad because sometimes I don’t know a word,” and “get my book and read.”

So children taught Key Words were as good readers as those taught in the look-say method in use at that time, but the Key Words group *loved reading more*.

Many schools now emphasize phonics, or the systematic instruction on the spelling of various sounds, in early reading instruction. In part because of the irregular spelling and sound relationships in English, proponents of the Key Words approach see this as setting children up to fail. The constructivist nature of Key Words, emphasizing words that name things of interest to the child rather than sound-symbol relations, makes finding meaning the goal of reading instruction. Key Words advocates are convinced that this way of learning is supportive and positive, with children taking the lead in vocabulary, and becoming skillful. Social and education critic Paul Goodman wrote:

Consider . . . the method employed by Sylvia Ashton-Warner in teaching little Maoris. She gets

them to ask for their own words, the particular gut-word of fear, lust, or despair that is obsessing the child that day; this is written for him on strong cardboard; he learns it instantaneously and never forgets it; and soon he has an exciting, if odd, vocabulary. From the beginning, writing is by demand, practical, magical; and of course it is simply an extension of speech—it is the best and strongest speech, as writing should be. What is read is what somebody is importantly trying to tell. (Goodman, 1964, p. 26)

Teacher and Spinster, Ashton-Warner’s books about reading, have been translated into many languages. In former British colonies that have become independent (but still speak English), teachers find they can use Key Words to help children into reading. Children whose native language is English also can be taught using the Key Words method.

Another argument is over the role of the New Zealand educational system. Did the country’s Department of Education make Ashton-Warner’s contributions possible? That contradicts Ashton-Warner’s own statements, in several of her books, that she went unrecognized and unappreciated in her country for most of her life. Not a few people in New Zealand have dismissed Ashton-Warner’s work, saying, “All of us taught like that in the 1940s.” Yet despite the emphasis of the Education Department on Herbert Read’s arts-focused writing, we see little evidence of teachers supporting Read’s advocacy and descriptions of “creative surge” and none supporting creative reading, other than Elwyn Richardson’s documentation of his teaching Maori children through art.

The historical facts are in dispute, but clearly and profoundly, Ashton-Warner’s contributions to the many children who learned, seamlessly, to understand what reading is about, how it can name their passions, and that they *are* readers, came from her work with Key Words.

Sydney Gurewitz Clemens

See also Close Observation of Children Leads to Powerful Curriculum: Sylvia Ashton-Warner; Literacy; Reading; Vocabulary

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been extensive debates about its goals and the most appropriate pedagogical approach for achieving those goals. While play and social skill development are seen by many as the original objectives of kindergarten, over the past century there have been repeated calls to more explicitly focus early childhood education on academic instruction as a strategy to improve schooling outcomes.

Since the late 1990s, kindergarten classrooms have indeed been characterized by a heightened focus on academic skill building, and particularly literacy instruction, in kindergarten classrooms. These changes, many posit, have been driven by the introduction of high-stakes accountability systems in K–12 schools as well as the broad introduction of early learning standards. Critics worry the increased focus on academic instruction is developmentally inappropriate and crowds out other important early learning experiences. Proponents, on the other hand, suggest academic instruction in early schooling can yield important benefits for children and narrow socioeconomic achievement gaps when taught in an engaging, age-appropriate way.

This entry describes the typical kindergarten experience in the United States today and highlights key ways in which kindergarten has evolved. It then summarizes the arguments and evidence surrounding new trends in kindergarten practices.

KINDERGARTEN

Children's experiences during their first years of formal schooling have an immense impact on their developmental trajectories as well as longer-term adult outcomes such as college participation and earnings (Chetty et al., 2011). Historically, kindergarten marked the beginning of children's formal schooling experience. The first kindergartens appeared in the United States in the 1850s, and were heavily inspired by German educator Friedrich Froebel's model, which focused on discovery, play, and social interactions. For nearly as long as kindergarten has existed, however, there have

Kindergarten Classrooms Today

Trends in Kindergarten Enrollment

Kindergarten attendance in the United States is nearly ubiquitous. Only eight states *require* 5-year-olds to enroll in school and just 15 states mandate that children attend kindergarten prior to starting first grade, according to 2014 reports from the Education Commission of the States. Nevertheless, nearly all children now attend kindergarten in the year prior to first grade. In 2013, for example, 70% of 5-year-olds and 20% of 6-year-olds were enrolled in kindergarten, according to the U.S. Census Bureau. This high participation rate reflects a massive expansion in kindergarten enrollment

since the middle of the century. Between 1935 and 1986, every state in the country began providing some publicly funded kindergarten and over time states' investments in kindergarten has expanded (Cascio, 2009; Dhuey, 2011). Overall, kindergarten enrollment in the United States increased from roughly 1.6 million in 1955 to 4.3 million in 2013, according to the Census Bureau.

Not only has overall participation in kindergarten grown drastically, but the *dosage* of the kindergarten experience has also increased. In 1998, just over half of kindergarteners attended a full-day program. By 2010, this figure had grown to 80%.

For most children in the United States, kindergarten is no longer the first formal classroom experience. Between 1970 and 2013, the number of U.S. 3- through 5-year-olds enrolled in nursery school or preschool (but not kindergarten) more than quadrupled, from 1.1 million to 4.7 million. The majority of those preschool slots are publicly funded, and oftentimes located inside elementary school buildings.

To summarize, the prevalence of kindergarten has changed substantially in recent decades. Whereas kindergarten was once a part-day, often-targeted program that served as children's first transition into a classroom setting, today nearly all children in the United States attend kindergarten, most do so full-time, and for many, kindergarten now serves as the second or even third year of formal classroom learning. There is now compelling evidence that the expansion of kindergarten led to positive benefits for children as well as increases in maternal employment.

Inside the Kindergarten Classroom

In addition to the increases in enrollment and duration, there has also been a distinct shift within kindergarten classrooms, away from the initial focus on play and socialization. Large observational studies collected in the mid-1990s and early 2000s of kindergarten classrooms across the United States provide telling windows into the typical day in the life of a kindergartener. These studies showed roughly 28% of the kindergarten day was devoted to literacy instruction, compared to

11% to math, 9% to science and social studies combined, and 9% to art and music. Further, most of the kindergarten day was spent on teacher-directed whole class or individual instruction (37% and 20%, respectively) with relatively little time devoted to child-selected activities (6%) (LaParo et al., 2009; Pianta, La Paro, Payne, Cox, & Bradley, 2002).

Recent work leveraging two nationally representative datasets from 1998 and 2010 demonstrates that the emphasis on literacy as well as the use of teacher-directed instruction in kindergarten is on the rise. Bassok, Latham, and Rorem (2015) showed that over this period teachers' expectations for incoming kindergarteners with respect to academic skills (e.g., letter and number recognition) rose drastically. Relatedly, while only 30% of kindergarten teachers in 1998 believed children should learn to read while in kindergarten, this number rose to 80% in 2010. The authors also demonstrated substantial increases in time spent on advanced literacy and mathematics skills concomitant with large drops in time devoted to science, music, and art. Furthermore, the percentage of classrooms that spent 3 or more hours in teacher-directed, whole-group instruction more than doubled, from 15% to 32%; time spent using textbooks, workbooks, and worksheets also increased substantially. Finally, the authors showed a substantial increase in standardized testing in early childhood settings. Specifically, in 1999 only 11% of *first-grade* teachers reported using standardized tests at least once a month. By 2010, 29% of kindergarten teachers reported assessing children using state or local standardized tests at least monthly.

Debating the New Kindergarten

The changing nature of kindergarten—particularly the heightened focus on academic skill building and teacher-directed instruction—has been extensively criticized by researchers and practitioners. One concern is that a heightened focus on academics could be stressful for children and negatively impact their self-confidence and attitudes toward school. Another is that the focus on

academic instruction could crowd out other types of valuable learning experiences critical to the development of children's social-emotional and physical well-being. Nobel laureate James Heckman argues the emphasis on academic skill building in early education is misplaced because the long-term benefits of early schooling operate through impacts on noncognitive social and behavioral skill building, rather than academic skill building.

On the other hand, there are a number of reasons an emphasis on academic content in kindergarten (and particularly on engaging, advanced content) may be beneficial for young children. First, a number of studies have now demonstrated that children's early *academic skills* are far stronger predictors of later-life outcomes than are children's social skills (Duncan et al., 2007). It may be the case then that early investments in academic instruction set children on a higher learning trajectory and allow low-income children to catch up with higher-income peers who are more regularly exposed to literacy and numeracy in their home environment. Magnuson, Ruhm, and Waldfogel (2007), for example, showed that more academically oriented early elementary experiences helped children who did not attend preschool catch up with their peers.

It may also be the case that due to the rapid expansion of preschool programs, children today are entering kindergarten having mastered skills that were once under the purview of kindergarten teachers. Indeed, kindergarten teachers in 2010 reported that children—particularly those who were low-income and members of racial/ethnic minorities—entered kindergarten with much higher literacy and math skills than in 1998 (Basok & Latham, 2014). Relatedly, two recent studies leveraging nationally representative samples of kindergarteners showed teachers allocated most of their mathematics instruction to basic skills such as counting and shape identification, despite the fact that the vast majority of children had already demonstrated mastery of those topics (Engel, Claessens, & Finch, 2013; Engel, Claessens, Watts, & Farkas, 2015). Further, time spent on this duplicative content was negatively associated with

children's kindergarten learning, whereas time spent on more advanced content was generally linked to positive gains.

Conclusion

Although debates about the goals of kindergarten are not new, the marked changes to kindergarten since the late 1990s, as well as the recent roll-out of the Common Core State Standards for kindergarten, have led to particularly charged critiques (and defenses) of kindergarten. At their core, these are debates about *what* and *how* kindergarteners should be taught. Should the focus be on basic skills and academic learning or creativity and unstructured play? Should instruction be directed by the teacher or child centered and inquiry based? Framing kindergarten instruction as a choice between “developmentally appropriate” and “playful” experiences on one hand, and “academic” and “didactic” instruction sets up a false dichotomy.

It is important to distinguish between *what* is being taught to young children and *how* it is taught. Oftentimes academic instruction is assumed to occur in classrooms that are more teacher directed and less playful. Many critiques of early academic instruction are more concerned with over-reliance on worksheets and rote tasks than exposure to early literacy and numeracy experiences, per se.

In recent years, developmental scientists and the National Association for the Education of Young Children have moved away from the position that early academic instruction is inherently developmentally inappropriate. Rather, they make the case that the benefits of such instruction are inextricably linked to the pedagogical approach, the quality of teaching, and the connection between instruction and young children's curiosity (Katz, 2015; Snow & Pizzolongo, 2014). However, the instruction needed to effectively facilitate this type of learning environment—one that relies on a nuanced understanding of pedagogy, subject matter, child development, and sensitivity to teacher-child relationships—is not the status quo in today's kindergarten classrooms. As kindergarten continues

to evolve, finding ways to invest in the training and support of teachers who can provide young children with playful, engaging, supportive, *and* challenging instruction is a top priority.

Daphna Bassok and Tashia Abry

See also Academics and Academic Assessment in Early Education; Common Core State Standards; Kindergarten Environments; Standardized Assessment

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KINDERGARTEN ENVIRONMENTS

Kindergarten is a place for young children to socialize with other children and gain an understanding of school routine, and kindergarten is a place where young children learn. The kindergarten environment provides the stage where this all happens. The teacher is the director who, along with the children, creates a place for learning and a place for socializing. The kindergarten environment is a powerful and important teaching and learning tool. If the kindergarten environment is thoughtfully designed and structured, much of the

work of the kindergarten teacher is done even before the children arrive.

Kindergarten children learn by being actively engaged in activities with materials that are meaningful to their life experiences. Creating learning environments in kindergarten that are responsive to and recognize the developmental characteristics of children at this age will result in optimal learning experiences. As the school year progresses, the kindergarten learning environment should change to reflect the developmental changes that occur in children as they mature and gain new experiences. Responsive and welcoming environments promote kindergarten children's socialization, exploration, communication, curiosity, and creativity. In addition, skillfully designed and structured kindergarten learning environments support children's development in all domains—cognitive, language, social, emotional, and physical development. Kindergarten learning environments that foster both learning and development in ways that are appropriate for children's level of receptiveness also create in children a positive disposition toward learning and a sense of belonging.

Creating Kindergarten Learning Environments

Creating kindergarten learning environments is much more than simple room arrangement. Kindergarten learning environments should include both indoor and outdoor spaces and resources. Learning environments that are both dynamic and stimulating will fulfill the following functions in the kindergarten classroom, for children, and for teachers:

- Facilitate and guide children's activities, play, discovery, and exploration as vital processes in enhancing children's development and learning in all areas.
- Advance the holistic character of children's learning and development in an environment that stimulates exploration, investigation, curiosity, creativity, and socialization.
- Promote and encourage children's independence and sense of responsibility.
- Positively encourage children's participation with the family and in the community.

Indoor Kindergarten Learning Environments

Indoor or classroom learning environments receive the most attention from kindergarten teachers, from children, and from parents. The classroom is oftentimes the initial impression people have of the nature of learning environments in kindergarten. The manner in which the classroom environment is designed and structured reflects the values and philosophy underlying the learning that is to take place in that space. A number of different learning areas are appropriate for the kindergarten classroom environment. It is important to note that some of these areas will remain constant throughout the school year, while others will change as themes, children, or teaching and learning needs change.

While each of these areas has qualities that are unique to the area, there are also some qualities that are similar across the learning areas. In all of the learning areas children should have opportunities to experiment, explore, problem solve, be creative, and engage in learning processes that are active as well as both teacher directed and child directed. Children should have opportunities for choice (within a structure that the teacher has created). The activities and materials should be concrete and relevant to the life experiences of the children in the class; they should be open ended yet purposeful. The following areas are suggested to be part of a dynamic and purposive kindergarten learning environment.

Large Group Area. This is the area in the classroom where children meet as a group during different times of the day. It is the area in which large-group instruction occurs, where listening and sharing occur, and a general place for gathering the whole class together for various purposes. It may also be the place where children share literacy experiences with the class as a whole.

Language and Literacy Area. In this area of the classroom children have the opportunity to choose from among a variety of reading, writing, and language activities. It is a place where children can

experiment with print materials as well as have access to familiar books, magazines, and newspapers. Children should be given the opportunity to engage in reading and writing experiences either alone or with another classmate. It is also a place where children can experiment with a variety of writing implements, using these implements to create stories and pictures. This area is also rich in opportunities to develop language and listening skills. Recordings of books are provided so that children can listen to stories while following along with the print materials.

Manipulative Area. In this area, children are provided with a variety of manipulatives, games, and materials that are used primarily for the promotion of mathematical learning. In the manipulative area, children can count objects, sort objects, compare quantities, and measure objects. This area should be large enough so that more than one child can work independently or for more than one child to work cooperatively.

Inquiry Area. The inquiry area is a place where children can use all of their senses in activities and with materials that will enhance their understanding of scientific knowledge. It is an area in which children can explore, experiment, manipulate, discover, and observe. In this area it is important to create an environment in which children can construct their own knowledge and their own learning through active exploration and experimentation with the materials that are provided. This is the area in which the classroom pet may reside, as the experiences that children have with live animals and insects in the classroom are also an integral part of the inquiry process.

Technology Area. In this area of the room, children are provided with materials that will enhance their use of technology as a means of augmenting learning in any or all of the curriculum content areas. It is important to note that for the use of technology to be effective, it should be developmentally appropriate, encourage creativity and independence, and be integrated with curriculum outcomes. Computers along with software and websites that

are carefully chosen can do much to extend learning for children. The use of digital cameras and/or a tape recorder will be useful in facilitating children's documentation of their own learning.

Expressive Arts Area. This is an area of the room that is designed to allow children to express themselves creatively through various modalities. Children should be encouraged to express themselves creatively through art using different media. Children should also be provided with space to express themselves creatively through dramatic play. Dramatic play provides children with the opportunity to interact, experience, and re-create actual or imagined situations. It is an opportunity for children to try new things without fear of failure, as there are no external standards for accomplishment.

Block/Construction Area. Building with blocks or constructing with other materials gives children the experience of developing mathematical and scientific concepts such as size, shape, number, and quantity. In addition, children will gain a sense of what balance means, or what it means for a structure to be symmetric. Activities in this areas also develop children's ability to problem solve and engage in social learning in ways that are meaningful to them.

The kindergarten classroom schedule is a critical component of the learning environment. The daily schedule should be one that is consistent and one that offers plenty of time for children to engage in the learning activities that are offered to them within the context of the kindergarten environment. While the schedule should be consistent, it should also be flexible so that the number of transitions that children experience is kept to a minimum. Establishing classroom routines will provide the children with the security of knowing what to expect, therefore creating a learning atmosphere where the potential of classroom spaces can be maximized.

Kindergarten children spend a lot of time in the kindergarten classroom, and as such, the classroom should be a place that is a comfortable place for children to learn and where they all feel valued. The classroom environment should be decorated

with original materials that are created by the children in the class. These could include artwork, stories, and projects. These materials could be created by individual children as well as by groups of children. There should be spaces where children can work alone or where they can work with other children. There should be quiet spaces and spaces where "noise" is an acceptable mode of learning.

Outdoor Kindergarten Learning Environments

The outdoor kindergarten learning environment can and should be an extension of the indoor learning environment. By engaging in various activities outdoors in areas that are well designed and structured and where materials are plentiful, learning opportunities will flourish. A well-planned outdoor learning environment will maximize the freedom of choice and independence of kindergarten children. It is critical that teachers continually assess the outdoor learning areas and make appropriate adjustments as necessary. Many of the same criteria that are used in designing indoor learning environments can be used when designing outdoor learning environments:

- The outdoor space should be large enough so the number of children and equipment can be accommodated.
- Supervision of children should be possible from any area.
- There should be a variety of age-appropriate materials and equipment.
- The outdoor area should be safe and protected from traffic.
- Accommodations for children with specific needs should be addressed when appropriate.

Final Considerations

Well-designed kindergarten environments are an integral component of the kindergarten curriculum—a component that facilitates learning and development, enhances learning and development, and creates opportunities for learning and development. As stated earlier, it's the stage on which

the teacher directs and provides structure to children's learning experiences. Kindergarten environments are both indoors and outdoors. Well-organized kindergarten environments, whether they are indoors or outdoors are

- welcoming and inviting to children;
- exciting, vibrant, flexible, yet dynamic;
- responsive to children's ever changing interests, needs, abilities, and developmental levels;
- spaces that invite making choices, social interactions, risk-taking, discovery, connections to nature, language, play, collaboration and cooperation;
- spaces that provide a sense of place and purpose;
- spaces that are plentiful with learning resources, materials, and experiences;
- consistent and predictable, yet flexible when needed;
- both interesting to children and engaging;
- spaces that provide children with complex and deep learning experiences (rather than shallow, meaningless, irrelevant, or superficial experiences);
- spaces that contain open-ended, complex, and interesting materials that can be used in many different ways and for many different purposes;
- spaces that provide children with materials and activities that can be experienced over and over again without becoming boring;
- spaces that provide a balance of experiences to children that facilitate learning across the curriculum and enhance development in all domains; and
- spaces that provide children with various types of experiences that can accommodate all learning styles, developmental needs, and individual differences.

In creating learning environments, kindergarten teachers are provided with ideas and strategies for enhancing the learning that occurs as children are engaged in curriculum activities. Teachers intentionally think about organizing the kindergarten environment (both indoors and outdoors) in ways that will provide children with meaningful and

accessible materials and activities. Environments that support all areas of development, are responsive to all children's pace of development and style of learning, and promote learning across the curriculum will encourage all kindergarten children to explore the many opportunities and possibilities for learning in a caring learning environment.

Dominic F. Gullo

See also Challenging and Supportive Climates; Curriculum and Early Childhood Education; Healthy Environments for Social-Emotional Development; Inquiry; Kindergarten; Technology and Play; Technology in Early Childhood Education

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LANGUAGE DEVELOPMENT

During early childhood, children come to understand and produce the language or languages they are exposed to. This process is called language development. Language development is a multifaceted task that involves learning the repertoire of sounds of one's language (phonology), learning the vocabulary of one's language (lexicon), learning how to combine words together to create meaningful sentences (grammar), and learning how to communicate effectively with others using language (pragmatics). This entry focuses on typically developing children learning one first language, and highlights accomplishments in each area of language development across the early childhood period. It then discusses the close relationship between language and literacy development and the important role that parents and preschool teachers can play in children's language development.

Phonological Development

Phonological development concerns the child's acquisition of speech sounds. Every child is born with the ability to distinguish a full range of sounds and therefore to learn to understand and pronounce words in any language. This ability gets more limited the more the child is exposed to the specific sounds of their own language or languages. Indeed, as early

as 5 to 6 months of age children are already losing the ability to distinguish sounds in languages they are not exposed to, and are becoming experts at the sounds they are exposed to. Each language has its own repertoire of speech sounds or phonemes. Honing the ability to produce these phonemes accurately is the child's first step toward speaking a language.

Children make sounds from birth. Early sounds primarily consist of crying and burping, yet around 2 months of age children start cooing or producing drawn-out vowel sounds. Between 6 and 9 months, infants enter a stage called canonical babbling where they begin to pair consonants and vowels together (e.g., /dada/, /baba/) and exhibit some traits of adult word sounds and timing. Children continue to add phonemes to their babbling repertoire and around 10 months also begin to use conversational babbling (also known as jargon) where they can string a series of sounds and syllables together using adult-like cadence and timing. This ability to put syllables and sounds together demonstrates the child preparing for more fluent speech and for the role of conversing with another person.

Starting around 1 year of age, children begin to replace babbling with words. As their vocabulary expands their ability to produce all the phonemes in the language is still limited, thus they often simplify words to be able to pronounce them (e.g., saying "nana" for "banana"). This is due to ease of use and also due to physical and neurological

development where some sounds (e.g., “th” in “that”) are harder to produce when the child has less-developed motor skills to move their tongue accurately to form that sound. Children’s pronunciation of sounds continues to improve with practice and the development of their motor skills, and in response to input and feedback from parents and others. By the preschool years speech is much more intelligible, and by age 7 children are adult-like in their phonology.

Children’s phonological awareness is also important for literacy. That is, the more children understand about how to manipulate the phonemes in their language the better prepared they will be for learning to read. Examples of manipulating phonemes include being able to play rhyming games with words (what rhymes with “hat?”), and being able to produce words with and without certain sounds (e.g., say “cat” without the /c/ sound). These are excellent activities for preschool children to engage in to increase their phonological awareness.

Lexical Development

Although children do not typically begin speaking words until after their first birthday, they comprehend words early on in infancy. Lexical development is separated into two categories: receptive vocabulary, which relates to what words the child hears and can understand, and productive vocabulary, which relates to what words the child can produce himself or herself. Children have a much larger receptive vocabulary than productive vocabulary and thus can understand more words than they produce. Infants begin to show signs of understanding some basic words such as “mom” or “dad,” as well as their own name at approximately 5 months old. By 12 months when infants begin to produce their first words, they already have a good understanding of many words. For example, an infant with a receptive vocabulary of between 100 and 200 words will have a productive vocabulary of fewer than 50 words.

During the second year of life there is a great increase in receptive and productive vocabulary development. As children begin to build their early

vocabulary, nouns are usually acquired faster along with some key verbs. In fact on average, 40% of an English-speaking child’s first 50 words will be nouns. Children can acquire words very quickly. Sometimes only minimal exposures to words are necessary, a process known as fast mapping. For example, imagine a parent using the word “cat” while pointing at a cat in front of the child. The toddler may be able to retain the word after just a few instances of hearing the word coupled with the referent. However, while children are beginning to grasp these newly acquired words and their corresponding meanings (known as semantic development), they can still make some common errors. For example, children may over-extend the meaning of a certain word (e.g., learning the word for cat and applying it to a dog) because of the similarities between them. In some cases, children will know the meaning they want to convey and will “invent” a word in order to describe the concept (e.g., they might say “horse-house” instead of “stable”). Parent and preschool teacher input helps children hone these skills and continue to develop and expand their vocabulary. By the time children are in preschool they may have productive vocabularies of over 1,000 words, and after this point their vocabulary is growing by between 2,000 and 4,000 words per year.

Syntactic Development

In addition to learning words, children need to learn how to combine words together into sentences. One of the key skills required in this process is morphological awareness. Morphemes are the smallest unit of meaning in language and take the form of individual words (free morphemes, such as “book”) as well as additions to a word (bound morphemes). Bound morphemes can be derivational or inflectional. Derivational morphemes are additions that change the meaning of the word. For example, if you add morphemes to the word “employ” to create the words “employ-er,” “employ-ee,” “employ-s,” and “employ-ment,” each new word now has a different meaning. Inflectional morphemes, on the other hand, relate more to grammatical changes than changes in

meaning. These morphemes always take the form of suffixes and are applied when relevant to the grammatical context (e.g., “float” to “float-ed” or “join” to “join-ing”). These morphemes are necessary for children to master in order to learn to use correct grammar.

The order in which the most common morphemes are acquired is remarkably similar across different children. A famous study by Roger Brown found that, for example, the gerund (e.g., “playing,” “jumping”) is acquired earlier than the more complex auxiliary (e.g., “Daddy’s going dancing”). When a child begins to grasp the morphology of their language, they may make production errors that signal that they are learning the rules of their language. For example, in English there are many irregular verbs that are tricky for children and they often say things like “I goed” or “I falled.” These errors are often corrected by parents’ and teachers’ verbal responses “you went” or “you fell,” and children ultimately memorize the irregular forms.

The creation of novel sentences requires syntactic knowledge and is a most pivotal step in a child’s language development, as it allows the child to express himself or herself in novel ways, known as productivity. Each language has strict syntactic rules about how to form sentences, for example, English is an SVO language, meaning that sentences normally have a subject followed by a verb and followed by an object (e.g., Daisy loves painting). Well before they are able to produce meaningful sentences, children can comprehend the difference between the sound of grammatical and ungrammatical sentences (again, comprehension precedes production). Between 12 and 18 months, children will begin to use single words in a holophrastic way to express whole sentence meanings, for example, “bottle” to mean “Please give me my bottle.” Children then progress to two-word utterances, or telegraphic speech, between 18 and 24 months (e.g., saying “mommy tea” to depict the possessive “mommy’s tea” or “daddy play” to explain that “daddy is playing.” Between 24 and 36 months, children progress from combining the words they know into short utterances (e.g., “Mommy no come” to ask “Is mommy not coming with us?”), after which they progress to more

fully syntactical sentences. With practice, exposure, and feedback, eventually children’s morphological and syntactic awareness improves and they can create longer and more syntactically rich sentences and ultimately whole narratives.

Pragmatic Development

Part of becoming an effective communicator requires knowledge of how to use language appropriately in social contexts to serve different communicative functions or intents. Early communicative intents are evident in the first year of life in children’s use of the pointing gesture to request an object, or their use of babbling with intonation to ask a question. During the toddler and preschool years, children become more adept at taking turns in conversations and maintaining a conversational topic, yet conversational skills continue to grow throughout the early childhood period.

Sociolinguistic knowledge also falls under the realm of pragmatics. Examples of this are understanding culturally relevant rules of politeness and recognizing that different speakers might require a different type of language or discourse (e.g., how they speak to their peers as compared to a teacher). The development of conversational skills and social knowledge about language develops naturally over time with modeling from parents and teachers as well as exposure to different social environments (e.g., playing with peers on the swings as opposed to the doctor’s office). Children are typically still honing these skills early into their grade-school years.

Relation Between Language and Literacy Development

There are very clear links between oral language development and learning to read. Children who have stronger oral language skills when they arrive at kindergarten, on average, have an easier time learning to read and are more successful in school than children who start off with weaker oral language skills. This is not surprising, as the process of learning to read builds upon the linguistic

processes of language development already in place. For example, learning the sounds that correspond to specific letters and how to decode written words builds upon children's phonological awareness, or knowledge of the sounds in their language and how to manipulate them. Vocabulary is also key in literacy, since along with learning to decode written words, children need to know word meanings to comprehend the text. One way to foster language development during early childhood is to ensure that children are engaged in a lot of interesting conversations. Specifically, research shows positive oral language and literacy outcomes for children when their preschool teachers and parents talk to them a lot, use a large variety of vocabulary words, ask a lot of "why" or "how" questions, engage them in conversations about the non-present (e.g., something that happened last week), and talk about a wide variety of topics.

Meredith L. Rowe and Doireann Hobbs

See also Cultural and Linguistic Responsiveness;
Language Disabilities; Language Diversity; Oral
Language Development; Phonological Ability;
Vocabulary

Further Readings

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LANGUAGE DEVELOPMENT, THEORIES OF

Language is a great power—the major means of communicating—via conversations, wedding

toasts, books and magazines, legal briefs, prayers, text messages, Pinterest, Netflix, Twitter, Facebook, and other avenues ever expanding in the electronic world.

Theorists differ in their concepts with respect to various aspects of language. Some focus on sentence structure versus function. Some differ on the relationship between intelligence and thought as contrasted with language. Lev Vygotsky believed that language and thought both have roots in infant development. In contrast, Jean Piaget (1973) asserted that intelligence and thought develop *prior to* and outweigh language in importance: "Language appears at the same level of development as symbolic play, deferred imitation, and doubtless, mental image as interiorized imitation" (p. 117). Thus, for Piaget, thought is primary. Logical operations involved in combinatorial thinking and transformations involving "coordinating inversions and reciprocities . . . outdistance the subject's language and could not even be formulated with the sole aid of language" (p. 120). Piaget does acknowledge that for the child who has matured beyond the sensorimotor stage, language intertwines with thought and can facilitate more powerful thinking.

Developing language skills, whether receptive (understanding) or expressive (speaking), is a complex enterprise that must be mastered over many years. The three great streams of human language that children must become proficient at are speaking, writing, and reading.

Theorists attempting to make sense of language learning data have focused on different aspects of language acquisition. Infants use one-word *holophrastic* speech; older toddlers produce *telegraphic speech* with two- and three-word phrases ("Me like candy!"). M. D. S. Braine theorized that children innately possess a rule called *contextual generalization*. That is, having heard a word in a particular language context, a child will tend to use that word in the same position in another context. Thus, one 3-year-old, seeing a man standing on top of a hill and knowing his father loved climbing, called out "Papa!" to a startled stranger standing up there. Braine's theory posited toddler use of a frequent *pivot word* (supposed to occur

only in initial or final phrase position) combined with a less frequent *open class word* that tends to be a noun or verb: “More juice” or “Want dat.” Two-word phrases were never supposed to consist of two pivot words. However, language samples show that toddlers do combine two pivot words, as when a child wants her papa to give her another horsey ride: “Daddy more!” Some linguists, such as Roger Brown and Peter A. Reich, have divided toddler utterance into other categories such as assertions (“My sock!”), descriptions (“stove hot”; “doggie bad”), comments (“Big ball”), and requests (“Want dat”).

Language theories differ in whether they emphasize experiential/cultural or innate explanations for linguistic development. B. F. Skinner, eminent proponent of the power of operant conditioning, avoided “mentalistic” or innate conjectures and focused on language production rather than competence. He proposed that the same learning rules apply for *all* learning, including language. Children imitate adult models who reinforce and shape child verbal productions. However, data reveal that parents rarely correct toddler grammar. Instead, parents often praise a child for intent or content by saying “Right” as when a toddler correctly comments about the neighbor’s cat: “Nice kitty go meow.”

Language is far too complex to be simply learned only through adult shaping of child speech. Of course, to acquire spoken language facility, a child must hear and accurately produce the sounds and words of a language. Hearing children of non-verbal deaf parents do not learn language from watching television. A traumatized child or one who has speech dysfluencies may have low performance and yet possess much higher language competence.

Adult inputs surely do influence child language abilities. Genie, a girl raised in isolation for over a decade, produced only guttural sounds when rescued. Four years later, she could produce some short sentences. Despite intense tutoring, she never did develop adult forms of grammar and would say, “M. say not lift my leg in dentist chair” (Reich, 1986, p. 302). However, a possible genetically programmed “critical period” for learning grammar

rules plus severe deprivation of human loving interactions plus poverty of any early intellectual stimulation may all have been responsible for her speech lacks. According to Catherine Tamis-LeMonda and colleagues, research does confirm that when parents encourage and expand children’s vocabulary and linguistic knowledge, then children typically show more rapid growth in language.

Language Domains

Different theorists focus on explanations for development in five major language domains: phonology, morphology, syntax, semantics, and pragmatics.

Phonology

Children need to learn to pronounce the sounds (*phonemes*) of the language of their culture. Sound production advances in fairly lawful ways in English. Open throaty vowels and coos appear early. Labial consonants are easiest and result in early combinations such as “mama” or “dada” that parents hear with delight. The most difficult consonant for many children to pronounce is *r*; hence, a toddler may exclaim “wab-bit” on seeing a bunny. Some consonant strings remain difficult for preschoolers, such as *str* in “street.” Articulatory deficits in sound pronunciation are sometimes caused by physiological abnormalities or difficulties in coordination of tongue, palate, larynx, and lips.

“Parentese” has been proposed as a way to encourage infant sound production. During intimate turn-taking-talk with baby, an adult pitches the voice higher, draws out vowels, and uses short phrases and delighted tonal expression. Then an infant is more likely to vocalize sounds in response. In comparison to ordinary talk, parentese elicits cascades of neural firing from infant brains.

Children also must learn *variations* in sound pronunciation. The initial consonant *t* in “two” is aspirated more strongly than the *t* in “stew.” Differences in tongue placement and degree of aspiration account for such phoneme pronunciation differences. Experimental techniques such as

non-nutritive sucking, baby head turning, and sound spectrograms permit researchers to find out when infants differentiate sounds and when children can hear and produce voiced versus unvoiced consonants (*b* vs. *p*, for example). These techniques permit clear pinpointing of differences in infant perceptual boundaries for sounds that adults in that culture may no longer be able to distinguish or pronounce (*l* and *r* in Japanese, for example). This early infant skill has led some theorists, such as Noam Chomsky, to postulate an innate language acquisition system or device (LAS or LAD), rather than emphasize acculturation.

Morphology

Children become aware of, and learn how to use appropriately, those parts of speech that can entirely change a word's meaning. For example, adding "un" to "fair" produces "unfair," or adding "re" to "deliver" means that a package has to be brought back again to a home. Adults often model words with easy morphemes; older children need to learn more sophisticated morphemes such as "circum" in "circumnavigation." From their caregivers, toddlers often easily pick up some polar opposites (big vs. little; cold vs. hot); preschoolers still struggle with sophisticated polar opposites such as shallow versus deep.

The theory of *overregularization* is used to explain errors when, for example, a preschooler proudly declares that his mom is the best "cooker." He has learned the rule for adding "er" to define an agent (teacher, baker), but does not yet know that some agents such as "cook" do not require any special ending. Brown's research on language acquisition by Adam, Eve, and Sarah noted that these children acquired 14 grammatical morphemes in an order predicted by the rule of linguistic complexity. The present progressive ("swimming") appeared earliest. The contractible auxiliary morpheme (e.g., "Baby's going nighty-night") was the last to be acquired. Jean Berko's Wug test provides a splendid way to elicit children's understanding of English regular and irregular forms ("This is a wug; now there is another one. . . . There are two ____"). Regular endings, such

as the plural "wugs" or "baker" or "ended" follow a rule of how to apply endings for plural or agent or past tense. For irregular words ("mice"; "fell") a child must instead retrieve that special lexical item stored in memory. Thus, a young child is more likely to complain "Mommy, I fallded down!"

How do children learn words? Mandy Maguire and colleagues proposed the "SICI continuum." They theorize that regardless of a word's grammatical form, children's earliest words refer to concepts distinguished by a reliable and consistent shape, easy to tell apart from others ("individability"), perceptual salience and "concreteness," and these easily allow a child to create a mental image ("imaginability"). Their theory would predict how much more difficult words like "truthfulness" or "resilience" would be for a young child to understand compared with words such as "doggie," "up," "shoe," or "bye-bye." This theory would also explain children's use of *semantic transparency* when they construct terms such as "pig house" when they do not know "pig sty."

Syntax

Grammar rules for sentence word order differ among languages. "The white house" in English translates as "La casa blanca" in Spanish. Some languages, such as Italian or Spanish, do not always require a subject. "Es la madre" means "She is the mother" in Spanish, whereas "She" is required as the sentence subject for correct syntax in English.

Noun word endings have declensions in some languages, such as Latin and Russian, so that word order is not so important for the speaker/reader to understand what is said or written when he or she knows the declensions well. Thus, "babushkoo rebyonok bayitsa" means "The child is afraid of grandma" even though the word for grandma initiates the phrase, because that word has an accusative ending that clues a Russian-speaking child that grandma is the *object* of the child's fear and is not the subject of the phrase. An English-speaking child usually assumes that when a word is in first place in a phrase, then that word is the subject or agent. Indeed, researchers working with English-speaking children note

that decoding passive sentences is very difficult for children until they are about 4 or 5 years old. Asked to act out with soft toy animals “The puppy was hugged by the bunny” or “The puppy hugged the bunny” young preschoolers in both instances will have puppy hug the bunny.

Theorists differ markedly in explanations of how children learn to combine vocabulary words into sentences, and even embedded phrases, according to the grammatical rules accepted by their particular language group. In *Syntax Structures*, Chomsky’s rationalist formulations focused on syntax. In contrast to the empiricist Skinner, Chomsky emphasized competence rather than performance. He posited the existence of a universal grammar applicable to all utterances a language permits. He theorized that since children in all cultures learn the grammar rules of their language, and also since there are brain areas for receptive language (Wernicke’s area) and for language production (Broca’s area), then language acquisition rules must be innate. Rules for syntax learning include the concept of a core, a deep structure that signifies the relation between a subject and an object as in “Sara dresses the doll.” This core follows phrase structure rules (or tree diagrams) that divide a sentence into a noun (or noun phrase), a verb, and then an object or further embedded phrase as in “Sara was dressing the doll that had been a gift from her aunt.” Chomsky posited *transformational grammar rules* that further allow a speaker flexibly to convert deep structure (d) into a myriad of “surface structures” (s) such as imperatives (“Sara, dress the doll!”) or questions (“Sara, have you dressed the doll?”) and other forms, such as subjunctives in past or future (“Sara might have dressed the doll”), or negatives (“Sara will not dress the doll”), or conjectures (“Will Sara have dressed the doll before her aunt visits?”). Chomsky posited *transport rules* whereby a child learns to move an auxiliary verb to the front in order to compose a question (“Did Sara dress the doll?”).

Chomsky’s theoretical approach later, in *Rules and Representations*, became known as government and binding theory. This theory ties together phonetic and logical forms and phrase structure rules, lexical (vocabulary) categories, such as verbs

and nouns, as well as “complimentizer” phrases used to embed a clause within another clause (as in “This is the house that Jack built”), according to Jean Berko Gleason and Nan Bernstein Ratner. Despite Chomsky’s emphasis on the innateness of language learning, researchers confirm that when adults do recast older children’s grammar errors, then children are three to eight times more likely to try to use the corrected form with those adults, according to Matthew Saxton. Roberta Michnick Golinkoff and Kathy Hirsch-Pasek (1999) reported that “babies whose mothers routinely name objects for them have enhanced vocabularies a few months later” (p. 72). Caregivers do influence word learning.

The derivational theory of complexity (DTC) postulated that a syntactic construction that required more rules or more complex rules would be produced in language learning only after phrases requiring simpler and fewer rules. Thus, a toddler might say, “No me want soup” before learning to transport a negative word into a phrase, add an auxiliary plus a past tense lexical item, in order to say, “I did not want soup.” Discussing DTC, Reich (1986) points out that “later grammars within the transformational tradition, and grammars from other schools of linguistics, such as [Halliday’s] systemic theory [Lockwood’s] stratificational grammar or [Pike’s] tagmemic theory might well make other predictions as to complexity” (p. 310).

Katherine Nelson’s functional core hypothesis focused on concepts, instances, and attributes—the internal categories that children have, for example, about a ball: how it feels, rolls, bounces, and is thrown. Such perceptual features and experiences flesh out a child’s concept. Thus, learning the word “ball” involves associating the sound sequence for the word with all the properties, concepts, and activities already acquired.

Semantics

To succeed in school, children must decipher meaning in sentences or paragraphs. A child who decodes and pronounces each vocabulary word aloud while reading an essay may still not understand the implications of a passage. One teenager,

taking a test, read a paragraph about insect-ridden meat and was supposed to check which of four listed organizations would be the appropriate agency to supervise this situation. She checked “Civil Rights Act.” She had read all the vocabulary words, but still did not realize the meaning inherent in the paragraph’s description of tainted food that could definitely harm human consumers, so responsibility for food safety would come under a Consumer Agency, a choice the test clearly did provide.

Theorists need to grapple with the fact that familiarity with accepted grammar usage may be quite separate from semantic ability. Indeed when a toddler at a birthday party saw a peer bite and deflate another child’s balloon she urgently called out, “Baby other balloon bite—NO!” Her mom understood the semantics very well. Her toddler did not want that peer to bite and deflate her balloon too. Sophisticated semantic decoding abilities may well be linked with cognitive abilities as well as language learning opportunities. Full semantic sophistication includes understanding puns, sarcastic put-downs couched in seemingly innocent phrases, and which words are “cool” to use with peers. Children need to learn the subtle semantics of *indirect speech*. A parent exclaiming “This living room is a mess!” impels some youngsters hurriedly to clean up toys while other children might keep on playing without understanding the implicit request in that parental exclamation.

What accounts for increasing sophistication in learning semantics? After careful longitudinal observations of mothers interacting with babies as they gradually acquired words, Jerome Bruner (1983) set forth an intriguing theoretical proposition: “Language acquisition appears to be a by-product (and a vehicle) of culture transmission. Children learn to use a language initially to get what they want, to play games, to stay connected with those on whom they are dependent. . . . The engine that drives the enterprise is not language acquisition per se, but the needs to get on with the demands of the culture” (p. 103). Bruner asserts that “language acquisition is continuous with and dependent on the child’s acquisition of his culture [consisting] of symbols, procedures, concepts and

distinctions that can only be made in language. Language, in consequence, cannot be understood save in its cultural setting” (p. 134).

Pragmatics

Children need to learn the ways in which adults in their culture consider it appropriate or polite to speak to peers, parents, elders, bosses, or teachers. Words as well as expressions differ in cultures where children must learn modes of speech appropriate for different persons and social positions. In France, one uses the familiar “tu” to peers and family members, but “vous” more formally with teachers and adults. In English, youngsters learn that grandparents are shocked at hearing “poopy-head,” whereas the child cheerfully uses this term while bantering with a peer.

Bilingualism

Knowing how to speak and read more than one language is an urgent requirement in today’s global economy. Parents in Hong Kong and other nations strongly support and promote young children’s learning English (Honig & Lim, 2016). Yet theorists used to claim that learning more than one language in the early years would decrease children’s cognitive and language abilities. In contrast, recent research shows that bilingual children show enhanced cognitive flexibility and ability to focus attention with “more complex representational structure that includes two languages” (Bialystok, 2015, p. 120). Theories of how best to teach bilingual children have ranged from vocabulary drill (which does not lead to conversational fluency) to creative ways for children to learn phrases while interacting, for example, in a ball-tossing game. Teachers need sophisticated attunement to the kinds of errors in pronunciation, grammar, and writing that a first language may pose for a child.

Emergent Literacy

Researchers and educators focus more and more on emergent literacy. The components include

children's ability to listen, comprehend, and use oral language; awareness of words as separate from pictures; knowledge about letters in words; recognition of phrases and sentences; and phoneme/grapheme correspondence. These requirements can lead to frustration for children who struggle with dyslexia (spelling and reading difficulties). Children also need to learn when there are exceptions to correspondence rules. For example, *o* in "rote" is pronounced the same as *o* in "moat," although the orthography differs for those two words. Two learning processes have been theoretically posited by Grover J. Whitehurst and Christopher J. Lonigan as *outside-in* and *inside-out*. In the outside-in process, children come to understand that the "squiggles" on a page are print. They learn that there are conventions as to the way to read the squiggles and that the words have meaning and orderly progressions. They learn vocabulary and how narratives are constructed in sequences of words. In the inside-out process, constructs of emergent literacy include knowledge of letter names, letter-sound knowledge, and awareness of grammar. For tiny children, early literacy development is interdependent with and interwoven with early oral language development (Honig, 2008).

During interactive storybook reading, children learn the difference between the beginning and the end of a book, how to turn pages, and the direction of reading print on a page—from left to right and from top to bottom of a page (for English). When parents frequently and generously share early joint book-reading experiences, meta-analyses confirm that young children acquire superior proficiency learning to read, according to Adriana G. Bus and colleagues.

What variables have been implicated in worrisome delays in emergent language and literacy skills? Poverty, family dysfunction, child abuse/neglect, parental mental/physical illnesses, and very premature birth are some of the more sobering causes of children's struggles with reading and language mastery. A great sorrow for children with aphasia (language deficits due to brain impairments) or autistic difficulties is the lack of ability to use language for positive social

communication with others, according to John Harris. Structural variables, such as parental age, child gender/birth order, number/spacing of siblings, and number of children's books in the home, may affect early language learning. Process variables, such as language-related experiences, including language use at home, and early educational experiences affect language learning. The infant who is "shushed" rather than encouraged to vocalize in a child care setting loses a precious opportunity for glorying in his or her nascent language abilities. Teaching sign language to preverbal infants eases frustration. Making the sign for "more" empowers a preverbal infant to request manually more Cheerios cereal. Deaf children in an orphanage in Nicaragua created their own manual sign language. This suggests that there is an innate mechanism impelling social creation and use of language.

Conclusion

No one theory addresses all the mysteries of how very young children develop sophisticated skills in speaking, writing, and reading. Any widely encompassing theory will have to take into account many different contributors including genetic hard wiring and a possible critical period for some aspects of learning syntax; culture; beliefs and practices; breadth of experiences offered to small children such as play outdoors; daily dialogic picture book-sharing; meal-time rich conversations; visits to cultural events/centers such as museums, zoos, exhibitions, fairs, and nature reserves; quality of emotional relationship with caregiver; intactness of articulators and of brain and neural circuitry; child cognition; and peer pressure. A comprehensive theory of language development thus will require the combined efforts of many different professions in order to explain the great variability, complexity, and uniqueness in child language learning powers and usages.

Alice Sterling Honig

See also Infant Signing; Language Development; Literacy; Speech Development

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LANGUAGE DISABILITIES

Language is a complex, rule-based system that humans use to express their wants, needs, thoughts, and emotions as well as to understand the wants, needs, thoughts, and emotions of others. Children with language disabilities struggle with existing language rules and as a consequence, struggle with making themselves understood and understanding others around them. For children entering formal schooling, the presence of a language disability can have significant negative effects on their ability to participate and benefit from classroom instruction, even as early as preschool. This entry explores what it means to have a language disability and considers the impact of language disabilities on children's educational experiences.

Defining Language Disability

A hypothetical scenario illustrates how language disabilities may affect students' speech and comprehension. Jasmine is a 4-year-old child who

started preschool in the fall. Jasmine's teacher, Mr. Edwards, noticed that she was having a hard time settling into the routine of the class. He can understand the words she says, but he finds it difficult to follow what Jasmine is talking about. For instance, during circle time Jasmine might share, "I goed to that place I hadn't go to before." In addition, Mr. Edwards noticed that her sentences often sound simpler than those of her peers, contain lots of grammatical errors (e.g., "goed" for "went"), and she frequently mixes up pronouns, using "he" for girls and "me" instead of "I" (e.g., Me wants more juice). Besides the talking, Mr. Edwards has learned that he has to explain center activities to Jasmine several times, and that she is only able to listen to one instruction at a time. If he asks her to do two or more things (e.g., *Take off your coat* and *put it in your cubby*), she will forget what she was asked to do.

Jasmine, like so many children with language disabilities, presents with difficulties across a range of language areas. The rules of language are best understood in three main areas: content, form, and use. The remainder of this section discusses each area of language and how each might impact education.

Content

The content of language is the meaning behind what is said. Children with age-appropriate content have a wide variety of vocabulary words, understand new words with ease, and use the right words in the right context. In contrast, children with language disabilities demonstrate a significantly reduced range of vocabulary words. They have fewer words at their disposal, and often rely on "filler" words such as "thing," "stuff," and "it" instead of using more precise terminology. This reduction in content not only makes it hard for children with language disabilities to adequately express themselves, but it also makes it difficult for them to understand what others are saying to them.

Children who struggle with the content of language may find it difficult to learn new vocabulary words and academic concepts in class. Children

with language disabilities often need to hear new words and concepts multiple times, with explicit instruction, exemplars, and visual supports, to learn and retain that new information. Typically developing peers, on the other hand, learn new words and concepts with significantly fewer presentations. Children with language disabilities in the area of content may find it challenging to understand the vocabulary words used by teachers and peers, which often leads adults and peers to conclude that the child with language disabilities is "not listening."

Form

The form of language is the structure and organization of the sounds, words, and phrases used to communicate. Another way to think about form is the grammatical rules and conventions that dictate how we put words together to form coherent thoughts. Children with language disabilities may exhibit several grammatical errors, such as dropping word endings (e.g., "I have three *book*" instead of "*books*"), omitting functor words and auxiliary verbs (e.g., the, a, an, is, are), using incorrect verb tense (e.g., "I goed to the store" instead of "I *went* to the store" or "He *run* fast" instead of "He *runs* fast"), and improper use of pronouns (e.g., confusing "he" and "she" or "me" and "I"). Children with language disabilities are often described as sounding "immature" due to use of simple sentence structure (subject-verb-object) without any elaboration, such as noun phrases or verb phrases, or complex sentence structures.

Deficits in the area of language form not only make it difficult for a child to adequately express his or her thoughts, but can cause miscommunication for children with limited understanding of grammatical structures. Understanding verb tense, for example, impacts a child's comprehension of a story as well as the ability to follow directions in class. Children with language disabilities, in an attempt to understand directions, may perform actions in the order of mention rather than the order intended. For example, a teacher who instructs, "Before you go to centers, write your

name on your paper” clearly wants the children to write first and go to centers after. But a child with language disabilities, who doesn’t understand the complex form of this sentence, will likely go to centers first, because that direction came first in the directions.

Use

Use refers to the way children access and apply language in context, or said differently, refers to the functional application of the content and form of language. Children with language disabilities who struggle with the use of language may experience a restriction in the reasons they use language. They may be able to use their language to ask for things that they want, say hello to friends, and protest an action they don’t like, but struggle to answer questions appropriately, ask questions, or engage in conversation. Children with language disabilities will often have difficulty staying on one topic of conversation, will assume the listener knows more information on the topic than they do, and may tell stories in a disorganized fashion, making it difficult for listeners to understand. Additionally, children with language disabilities may exhibit awkward social interactions with peers and adults, including avoiding eye gaze, standing too close to conversation partners, struggling to enter into play routines with peers, and forgetting the rules of the classroom, such as raising their hand to speak.

Difficulties in the use of language put children with language disabilities at a disadvantage in the classroom. They struggle to make and maintain friendships and often lack a close bond to the teacher. Children with language disabilities may also struggle to answer questions in class or participate in class discussions in a way that others can understand. As a result, many teachers find it difficult to accurately assess what the child with language disabilities does and does not truly understand. Furthermore, children with language disabilities will often not ask for help or indicate that a word or concept was unclear, resulting in increased need for comprehension checking by the educator.

Educational Risks Associated With Language Disabilities

Language disabilities impact a child’s ability to communicate with adults and peers in his or her environment, but also have significant effects on a child’s early educational experiences. Children with language disabilities are at increased risk for weak emergent literacy skills, poor school readiness, fewer positive relationships with teachers and peers, and long-term academic failure.

Emergent Literacy Skills

Language is important not only to communication but also for academic mastery, specifically in the area of emergent literacy. Emergent literacy refers to the preliterate concepts a child must master to be able to transition to true reading. Emergent literacy includes concepts such as letter–sound awareness, phonological awareness, and print awareness. Children who are diagnosed with language disabilities often demonstrate difficulties with emergent literacy skills as well. Specifically, a child’s breadth and depth of vocabulary knowledge as well as understanding of the grammatical rules of language lay a strong foundation for using language in a literate context. Children without such a foundation will struggle to acquire emergent literacy skills, placing them at significant risk for delays in reading decoding and reading comprehension.

School Readiness

School readiness refers to the learning-related skills or behaviors children need to be able to successfully navigate the educational arena. School readiness behaviors include skills such as following directions, remembering the rules of the classroom, working independently, and cooperative play in groups. Children who enter preschool and elementary grades with strong school readiness skills make more gains academically, and at a faster rate, than children with weak school readiness behaviors. They are able to focus on the academic instruction, and benefit from teacher help more so than their peers with weak school readiness

behaviors. Children with language disabilities are understood to exhibit weak school readiness behaviors, on average, which puts them at further disadvantage academically.

Relationships With Teachers and Peers

As already discussed, children with language disabilities often show delays in the “use” of language, or the social skills surrounding language. As a result, children with language disabilities generally have fewer friends in class, struggle to connect with their teacher, and are at an increased risk of bullying. This is significant, as studies have suggested not only that positive relationships in the classroom create a safe place to learn and take risks, but that children who feel safe and welcomed in class make more progress over time than children who feel vulnerable. The closer a child feels to his or her teacher, the easier it is to request help, learn and apply new information, and participate in challenging activities. Children who do not feel as close to their teachers may not be as willing to be vulnerable in class, which may have negative effects on the amount of academic growth they experience.

Long-Term Academic Delays

Furthermore, research suggests that children who begin school with language disabilities are not only at risk for delays upon entering school, but are at risk for persisting academic delays through elementary school, into adolescence, and even into adulthood. Children who struggle with basic communication skills across the three areas of language (content, form, and use) fall behind their typically developing peers in early childhood. Once they fall behind, it is very difficult for children with language disabilities to “catch up.” Even with intervention, children with language disabilities may be able to remedy their conversational skills, but continue to struggle with the academic aspect of their language, including reading, reading comprehension, and more abstract thought processes required for science and applied math.

Conclusion

Children with language disabilities present with difficulties across three main areas of language, including content, form, and use. Young children experiencing difficulties in these areas of language not only struggle to communicate basic ideas to others and comprehend what others say to them, but they also struggle academically. Language permeates every facet of our world and for children with language disabilities, language *problems* permeate all aspects of their world, including early childhood education. The more educators can understand the role of language in communication skills and academic progress, the better position they are in to support learning for children with language disabilities. It is critical that early childhood educators work collaboratively with speech-language pathologists to ensure that children with language disabilities fully benefit from their educational experiences in the classroom.

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See also Communication Disabilities; Early Intervention; Expressive Language; Individualized Family Service Plan and Individualized Education Program; Language Development; Oral Language Development

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LANGUAGE DIVERSITY

Language is a system of linguistic features, such as sounds (phonology), meaning (semantics), grammar (syntax and morphology), and social aspects (pragmatics). These features form a system of words and sentences that people use to express their thoughts and feelings. More than 6,500 languages are spoken in the world today. In the United States, English is the most common language, followed by Spanish. Many children in today's schools are dual language learners, or children who are learning both their native language and a second language. This article addresses the variations within a language, such as nonstandard dialects, terminology, demographics of nonnative language learners, and teaching models and approaches used by schools. With the increase of young dual language learners in early childhood programs and classrooms, it is important that educators and caregivers understand and support the diversity in language development of children.

Variations and Nonstandard Dialects

Standard English is the form of English that has been determined to be acceptable as the national norm by the majority of the educated population in the United States. Standard English evolved based upon the spoken and written language of the majority Caucasian population who historically had the most power, wealth, and political influence in the country. It is not necessarily a superior form of English in terms of having the most logical rules or syntactical complexity, but is considered appropriate for formal or business settings. There are, however, variations in dialect and accent. Dialect refers to variations in words, grammar, and pronunciations in a language spoken by a sizable group of people, which may be related to a geographical region, race, gender, age, or social class.

One variation of nonstandard dialect is African American English (AAE) (also called Black English or Ebonics). While the name implies that this dialect is a racial dialect, it is actually a sociocultural dialect, often spoken in many sections in the southern

United States by low socioeconomic speakers, regardless of race. The AAE dialect has its origins in Africa and slavery in the South, with the dialect spreading to racially segregated urban areas. Examples of this dialect include final consonant deletions, such as “most/mos,” unstressed syllable deletion, such as “government/gov’mment,” and consonant reversals: “ask/aks.” In addition to these phonological variations, AAE has syntactical rules, such as plural -s not being required if the sentence indicates a plural amount: “She has five dollars/She got five dollar” and the use of triple negatives to emphasize the negations: “She doesn’t have any money/She ain’t got no money.” AAE also includes the syntactical use of the word “be” to indicate a continuing state, with the absence of “be” indicating a temporary state. For example, “She be talkin’” refers to someone who talks a lot, while “She talkin’” refers to someone who is presently speaking. Young children who are raised in homes and communities with the predominant use of AAE bring the dialect to the classroom in both their speaking and writing. However, with exposure to Standard English, they learn when to “code switch,” or use the dialect that is appropriate for the social setting. By the upper elementary grades, the majority of AAE speakers begins to understand the social significance of dialects and can readily converse in either dialect, depending upon the formality of the setting.

Another socially acceptable example of a variation in dialect in different areas of the country is the use of the word “you” changing to “you guys,” “youse guys,” “y’all,” and “you’ins.” Accents are variations in pronunciation, usually in relation to a particular region or country. For example, individuals from Boston may say “pahk da cah” instead of “park the car,” as the Boston accent deletes the “r” sound.

Dual Language Learners: Terminology

Dual language learners (DLLs), also called English language learners (ELLs), refers to children who are learning a second language, while often still learning their home or native language. As children become bilingual, or proficient in both languages, their primary or dominant language may or may

not be their native language. In some cases, as the second language is acquired, a child may lose his ability to speak in the native language. This is known as *subtractive bilingualism*. Children receiving instruction in both languages may also become biliterate, where they are also able to read and write fluently in both languages. In a school setting, children who are learning English as their second language may be labeled as limited English proficient (LEP) because they are not able to speak English fluently. These children need support of some type, such as an English as a second language (ESL) program. Once a child is able to speak English as well as a native speaker, he or she is considered to have fluent English proficiency (FEP); however, the student may still need support in acquiring formal academic oral or written language skills. Research shows that dual language learners generally become socially competent in basic conversation skills, or basic interpersonal communicative skills (BICS), in a second language within 2 years, while the ability to use language in a formal, academic manner, cognitive academic language proficiency (CALP), may take 5 to 7 years to develop fully.

Dual Language Learners: Demographics

Due to a history of immigration, the United States has always had a variety of languages spoken by its inhabitants. The U.S. Department of Health and Human Services reported that this diversity began to wane in the early 1900s with more restrictive immigration policies, a major depression, and world wars that caused the number of English language learners to dwindle to 4.7% by 1970. However, immigration numbers began to increase in the 1970s, bringing an increase in non-English-speaking residents to 20.3% by 2010. Census data from 2011 reported Spanish as the most common language spoken other than English, with a dramatic increase of 210% since 1980. The National Clearinghouse for English Language Acquisition reported that in 2011 the five home languages most frequently spoken by English language learners in the United States were Spanish, Chinese (Cantonese), Vietnamese, Arabic, and Hmong.

The Census Bureau's 2011 American Community Survey asked speakers of other languages to self-identify their ability to speak English on the following scale: very well, well, not well, or not at all. Almost 26% of Spanish speakers, 30% of Chinese speakers, and 33% of Vietnamese-speaking people reported they did not speak English well or did not speak English at all. These statistics illustrate that children who are not fluent in English are likely to have adults in the home who struggle with English.

Today, in U.S. public schools, language diversity is seen in all areas of the country. In 2012–2013, 9.2% of public school students, or 4.4 million students, were ELLs, according to the National Center for Education Statistics (NCES). The percentage of public school students who are ELLs ranges from over 10% to less than .7% depending on the state. Larger percentages of ELL students were seen in urban school districts, with ELL students making up 16.7% of students in large cities and 3.5% in rural areas in 2012–2013, according to NCES.

Language diversity is prevalent in Head Start programs, with almost three in 10 children in Head Start coming from families whose primary language is not English. The Office of Head Start reported in 2008 that only 16% of all Head Start programs serve only children whose primary language is English. This trend of growth in English language learners in early childhood and public school programs is expected to continue. The U.S. Census Bureau projects that due to immigration and birth rates in non-English-speaking families, children whose home language is other than English will increase from 22% to 40% of the school-age population by the 2030s.

School Models and Programs for Dual Language Learners

There are varieties of approaches used with dual language learners:

Additive Bilingualism. Learning a second language is promoted while students continue to learn the first language. Research shows that there are

cognitive benefits for a child who maintains the first language while learning a second language.

English as a Second Language Program. In an ESL pull-out program, ESL students meet with the ESL teacher outside of the regular classroom for a short period each day or week to receive intensive help in language acquisition.

Native Language Instruction. All instruction is provided in the students' native languages with the goal of mastery.

Submersion. Nonnative-English-speaking students are placed in English-speaking classrooms. The goals of this model are to have the student learn English and assimilate to North American society. The first language is not supported and is frequently lost in this subtractive model.

Dual Immersion. This method, also known as two-way immersion, bilingual immersion, dual language immersion, two-way bilingual immersion, or developmental bilingual education, provides integrated language and academic instruction for nonnative English speakers and native English speakers. This approach can lead to bilingualism for both ELLs and native-English-speaking students.

Sheltered Instruction. A modified curriculum is provided that integrates content area objectives and language development objectives. This approach makes academic instruction more accessible to students at different levels of English proficiency. A related program type is the sheltered model, where ESL and content area classes are combined and are taught either by an ESL-trained subject area teacher or by a team.

Transitional Bilingual Education. The native language is used to support content area learning, while the student learns English. In this method, learners are enrolled in content classes, which are taught in their native languages, while also taking English as a second language classes. These students may take other classes taught in English that require less language proficiency. Although students move from their native languages to English,

the goal is assimilation and the outcome is generally subtractive bilingualism.

Maintenance Bilingual Education. With the goal of promoting bilingualism and biliteracy, first language support is provided while learners are transitioned into English content classes. Students receive language arts instruction and content area instruction in their native language during this transition.

Enrichment Bilingual Education. Instruction for both native and nonnative English speakers in content classes is provided to achieve the goal of all students developing biliterate and bilingual skills.

Language Preservation/Revitalization Programs. This model is found on several Native American reservations where children speak English, but do not speak their Native American tongue, such as Wampanoag or Cherokee. Early childhood programs on Native American reservations, such as Head Start, offer instruction in the Native American tongue, helping children become bilingual in both English and the language of their heritage and halting the extinction of the language.

Supporting Language Diversity

It is important that early childhood educators and caregivers value the native language of a child. Research has shown that supporting children in learning their home language leads to greater success in learning English. Because language and culture are intertwined, this support shows respect for the child's family and culture, which can foster a sense of self-worth in a child. Fluency in the home language strengthens family bonds, allowing children to communicate with parents, grandparents, and other family members who are non-English-speaking. Finally, supporting linguistic diversity in the classroom can enhance the social skills of all children, as they experience mutual acceptance and respect.

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See also Bilingual Families; Cultural Diversity; Diversity in Early Childhood Education; Dual Language Learners; Dual Language Learners, Strategies for; Immigrant Children

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LEADERSHIP IN EARLY CHILDHOOD EDUCATION

The contribution of effective leadership to organizational development and change, and to the

raising of achievement in different educational contexts, is widely accepted. While there has been a growing interest in early childhood education (ECE) leadership from multiple countries, including New Zealand, England, the United States, and Australia, research in this sector has been more limited and dominated by a small number of researchers. In this context, Daniel Muijs and colleagues noted that ECE leadership has not been strongly theorized or related to school leadership literature. Much of the existing literature has focused on the roles and characteristics of ECE leaders, and there has been a need to identify what effective leadership practice is in terms of processes and outcomes. There was also a lack of leadership training, leaving some new leaders reluctant to take on the role and for those who did so a feeling of being underprepared.

Due to the complexity of the nature of leadership, existing literature points to the absence of a universal definition of leadership in early childhood education. At a time of rapid policy change, however, there has been an increasing emphasis on multidisciplinary teamwork and a new style of shared or distributed leadership with the capacity to improve outcomes for young children and families, especially those most vulnerable. With the understanding that a common definition of leadership in early childhood is evolving, this entry provides current information on what the field sees as essential to an understanding of effective leadership.

Since the 1990s, with strong policy and public attention to ECE, many Organisation for Economic Co-operation and Development (OECD) countries have focused on expanding access, improving quality, and developing more coherent and coordinated policies. The 34 member countries of OECD, which include the United States, have followed different models for organizing ECE systems, with potential implications for quality regulations and staffing, including a focus on leadership. A small but increasing number of countries have developed integrated care and administrative arrangements under the auspices of departments of education, resulting in more centralized and prescriptive approaches to decision

making, regulation, monitoring, and evaluation of learning and achievement. A contextual analysis of ECE leadership by Eeva Hujala, based on Urie Bronfenbrenner's bioecological theory, drew attention to all these operating environments of leadership, from the micro level, closest to the leader to the institutional structures and macro-level societal values that define leadership. Jillian Rodd has remarked upon a shift to systems leadership where ECE leaders focus on building leadership capacity within their own setting while working with and supporting other provision in the local area settings to enhance quality across the sector.

Leadership is globally seen as socially constructed, situational, and interpretive. Peter Gronn and Peter Ribbins established a link between human agency and social structure as a central question in contextual leadership research, distinguishing between studies that "psychologised" leadership and focused on role, and other studies that focused on the relationship between task structure, system, and environmental complexity. Manjula Waniganayake has advised taking account of the person (leader), the position (authority to make decisions), and place (organizational setting) in research on ECE leadership. Tony Bush (2014, p. 543) identified many models of educational leadership, distributed leadership being "most favoured" among educational leadership scholars. Distributed leadership is a democratic approach that is based on a culture that extends to full participation from school staff with change emerging from the bottom up rather than more hierarchical models where change is mandated from the top down. Bush also noted that instructional or pedagogical leadership was regaining significance. Anne Marie Coughlin and Lorrie Baird noted that the primary focus of pedagogical leadership is to build a culture of reflective practice by supporting early educators in their quest to make their teaching better by encouraging curiosity and openness so that practitioners learn from their own teaching. In this respect, Johanna Heikka and Waniganayake have aligned distributed ECE leadership with pedagogical leadership enactment in early childhood settings. Distributed ECE leadership assisted in the understanding of leadership as enacted by a

dispersed set of stakeholders, while pedagogical leadership reflects the core purpose of ECE in Finland, as elsewhere.

An exploratory study in New Zealand by Cushla Scrivens identified a desired leadership style emphasizing consultation, communication, and empowerment that did not sit easily with an increasingly neoliberal climate of competitiveness and control. Christine Woodrow and Gillian Busch (2008, p. 83) noted that ECE practitioners in Australia did not readily identify with leadership in a situation of "increasing control of the profession through mandated curriculum and auditing and the rise of corporate childcare and commodified children's services."

A system of centralized control has been found by researchers in Asia as well. In a 2014 study, Chi Wai Chan explored principals' leadership styles in Hong Kong, noting that they were expected to be autocratic, in line with Dora Choi Wa Ho's 2010 report of centralized approaches to ECE leadership. Chan's finding that kindergarten teachers perceived their principals as collaborative and participative was attributed to kindergartens' small size and simpler organizational structures. Cheng Yong Tan and Clive Dimmock (2014, p. 1) found that more direct government control in Singapore was being replaced by "a more subtle centre-periphery relationship." Marjory Ebbeck and colleagues, however, found that some Singaporean preschool teachers have reported cultures where principals and senior teachers were not willing to share status as a factor in their reluctance to take on leadership roles.

While central to effective ECE leadership is raising ECE attainment, this area remains unexamined by the majority. In order to identify the contribution of leadership to early childhood settings identified as effective by the Effective Provision of Pre-school Education (EPPE) project, Iram Siraj-Blatchford and Laura Manni drew on demographic information, policies, documents, observations, and interviews with managers to link leadership behaviors to the improvement of children's learning outcomes. Fundamental requirements for leadership for learning in this study included an ability to perceive contextual literacy

(seeing how context is shaped by multiple conditions in early education settings), a commitment to collaboration, and dedication to the improvement of children's learning outcomes.

English Sure Start children's centers, launched to offer disadvantaged children and families integrated services, including child care and early education, health, and social welfare services, provided a distinctive multi-agency model of ECE leadership. An evaluation by Caroline Sharp and colleagues of the National Professional Qualification in Integrated Centre Leadership (NCSL) identified clusters of centers working together on strategic goals; a cluster model with a locality manager responsible to the local authority; a hub-and-spoke model, where the hub center leader was responsible for work of satellite or "spoke" centers—as well as centers subsumed within other organizations and agencies. Leaders' self-report of program impact included personal impact on themselves and attitudes toward their own roles, changes in leadership behaviors and strategies, improvements in collaborative working with other agencies, and center-staff teams working as "learning communities" that were likely to impact children and families.

Lack of leadership development programs is an unresolved issue. Studies of program effectiveness have led to professional learning and leader capacity building, where leaders are encouraged to develop themselves and their staff teams through coaching and mentoring, and ultimately to engage children and families. More recently, Teri Talan, Paula Bloom, and Robyn Kelton have evaluated a leadership development model that emphasized individual leader characteristics, systems change, and program director roles as an agent of change. Specific training geared to individual director needs along with strong mentoring was found to lead to firm advocacy roles for directors. Directors who see themselves as advocates and engage in advocating for the early childhood profession are more likely to serve as leaders than directors without specific administrative training.

In regard to early childhood programs that are housed within PreK–12 school systems, elementary school principals are most often charged with overseeing teachers assigned to grade levels that

include PreK–3, but also may include Grades 4 and 5. Multiple studies have found that principal certification in nearly all states of the United States does not typically require coursework or praxis that focuses on child development, developmentally appropriate practice, systems theory, or the importance of family engagement—all underpinnings of effective early childhood education. The Center on Enhancing Early Learning Outcomes (CEELO) points out that principal leadership has an impact on child outcomes that is second only to effects of teaching. As principals serve as leaders of basic education structures that include PreK–3rd grade and are charged with evaluation of teachers who have been prepared to teach young children, greater opportunities for professional development are needed to increase understanding of transitions made by children and families as children move from birth–5 programs to PreK–3rd grade. In the meantime, models of distributed leadership appear to have potential in that principals and teachers may work more collaboratively and learn from each other.

Globally, policy makers are increasingly aware of the importance of early childhood education, particularly for children from low-income households, and effective leadership is now recognized as central to improvement. Thus, additional research regarding the meaning of leadership in early childhood education is needed in order to identify responsible entities as accountability takes the forefront. For all educational leaders, this may be best accomplished through an identification of ways that early childhood education is a unique field of study with multiple areas of research that support application of principles such as understanding child development, young children's approaches to learning, and family engagement. Such content, along with understanding and implementing advocacy efforts, will serve as a basis for early childhood education leadership development.

Carol Aubrey

See also Accountability in Early Care and Education; Bioecological Theory; Early Childhood Education Systems; Principals, Role of; Program Evaluation; Quality; Quality Rating and Improvement Systems

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LEARNING MATERIALS

Learning materials are the tangible things teachers provide to foster exploration, understanding, and mastery of concepts and skills. In early childhood, learning materials are particularly important because children's access to and interactions with materials during this period influence their developmental and academic progress. This entry focuses on how and why materials are used to promote learning with young children.

Early Childhood Materials

Young children are “concrete” thinkers; they need materials of all kinds to explore their capabilities, interests, and environment. Working with materials helps them (a) process stimuli; (b) discover and understand the physical properties of objects; (c) practice emerging physical, social, and intellectual skills and language; and (d) provide an outlet for the imagination. The spectrum of materials for young children ranges from open-ended items that can be used flexibly for many different purposes (such as play dough, paints, and writing tools) to ones designed for a specific and limited purpose (such as a matching game for identification of vowel sounds or a composition book used for recording daily journal entries).

The development of early childhood materials has been influenced over time by individuals considered pioneers in the field. The idea that materials should be specifically designed for young children as an important part of the curriculum is generally attributed to 19th-century educator Friedrich Froebel. Child-sized furniture and many toys and materials used today were inspired by Maria Montessori's work in the early 20th century. Caroline Pratt is credited as the inventor of unit blocks in 1913, a staple in early childhood classrooms for the past 100 years.

Today, materials are considered an indispensable component of early childhood curriculum. Most commercial curriculum products either include or offer accompanying materials, and teacher education textbooks typically incorporate extensive discussion about the role materials play in early learning. The materials market is supported by an extensive network of specialty vendors, but teachers also use everyday or recycled materials to help children make connections between their play, learning, and real-world lives. Online and print resources are also very helpful to teachers, providing them with recipes, examples, and “do-it-yourself” ideas for both making and using materials with children.

How Teachers Use Materials

The materials children prefer and how they learn from them varies as development progresses. Babies and toddlers enjoy interaction with objects; their curiosity focuses on physical properties and how an item can be manipulated. Preschoolers are developing social skills and are primarily interested in pretend play. Elementary-age children enjoy intellectually challenging games with rules and are beginning to think abstractly to problem solve. So, for instance, a 2-year-old would be very happy pushing a small plastic grocery cart back and forth repeatedly due to fascination with the way the wheels work, while two 4-year-olds would fill the same cart with play food for a planned imaginary grocery shopping trip. A second grader might be asked to estimate how much food the cart could hold and figure out what the

grocery bill might be if he or she was to purchase all the items.

Teachers choose materials to create opportunities for learning and development, and support observed interests and needs among their students. The curriculum in use may either directly or indirectly guide decisions about what and how materials will be used and made available to children. Typically, teachers use equipment (e.g., tables, carpets, storage units) to define and differentiate spaces for activities. Commonly designated areas in preschool classrooms include blocks, dramatic play and/or housekeeping, manipulatives, sand/water, arts, literacy, math, and science. Materials in elementary school classrooms gradually begin to focus more on print and technology resources and less on materials intended for play.

Teachers arrange materials in interest or work areas so that children can find what they need, follow directions, and put materials away when finished. They often use particular strategies to encourage independence and responsibility, such as a sign with photographs depicting steps for setting up and completing a science experiment. They think carefully about compatibility across areas as well; for instance, a book corner and writing center would be located away from noisy activities.

Teachers intentionally select materials that will support both generalized play and specific tasks/activities. Three areas considered essential for young children are blocks, literacy, and dramatic play. A block area for 3- to 6-year-olds would feature *unit blocks*, wooden shapes sized in multiples or fractions of a standard 5.5" L × 2.75" W × 1.375" H block. There would also be auxiliary blocks such as cylinders or planks and small “props” such as people, vehicles, or animals that children would use to populate constructions like a race track, farm, or airport. The teacher might post photographs of buildings or children's block constructions for inspiration and reference.

A dramatic play or housekeeping area typically contains child-sized home/kitchen furniture with props for cooking and other family life activities. As children's imaginations develop and their interest in pretend play emerges, often teachers add

items related to observed themes of interest, such as a veterinarian's office, a hair salon, or a pizza restaurant.

A literacy area would be stocked with books selected for the reading and interest levels of children, a comfortable area for reading, an MP3 or CD player with headphones for listening to or recording audio stories, a variety of writing tools, papers and writing surfaces of different kinds, and other implements children might choose for making books, posters, or other products such as a stapler, scissors, and paper hole punch.

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See also Approaches to Early Mathematics Instruction; Art; Literacy; Music; Play and Early Childhood Education; Science; Social Studies Topics; Technology and Play; Technology in Early Childhood Education

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LITERACY

What does literacy mean for young children? The most basic definition of literacy is the ability to read and write. From an early childhood perspective, literacy also must include an understanding of what comes before learning to read—how we help children gain the skills and dispositions to make literacy a fundamental part of their daily lives, as well as something in which to take pleasure.

Building early literacy skills has been identified as a central feature of high-quality early education in the United States. That being said, understanding how to balance both explicit and implicit approaches to literacy instruction is a challenge for early childhood teachers. While implicit approaches—having excellent reading materials available and accessible, labeling materials with both words and pictures, and so forth—were traditionally believed to be enough to help ground children's early literacy skills, a large body of research now points to the absolute necessity of explicit engagement with literacy. These explicit approaches require teachers to do more than prepare a literacy-rich environment—from this perspective teachers must also engage children in letter and word learning and in shared reading and discussion of texts. In addition, they must do this across a broad swath of genres (not just beautiful story books), and create linguistically and conceptually rich interactions for children in order to build both their vocabulary and conceptual understandings. While this is all true, too much explicit instruction, particularly teacher directed, can turn literacy experiences into drudgery and focus attention on basic skills alone without making room for the important conversations during shared reading that feed the engines of understanding. Similarly, we know from the research that too much reliance on implicit strategies can leave, and has left, children without key pieces of knowledge and/or understandings when it comes time to learn to read. Finding a balance and supporting teacher development and family practices toward engaging, interactive literacy experiences is imperative, particularly for young children from at-risk backgrounds.

This entry first provides a brief overview of current research about how children learn to read, then discusses what research has revealed about best practices in literacy in early childhood settings and the ways in which research highlights that these practices are and are not being taken up in early childhood settings, as well as some reasons for why or why not. This gap between research and practice, and the necessary professional development to bridge this space, is of central importance to ensuring that all young children have

every opportunity to learn to love to read. Finally, the entry discusses how to make literacy a more visible element of our daily lives and in the lives of young children by naming literacy, talking about when and why we read, and building this knowledge in young children.

Current Research About Learning to Read

Current research into early childhood literacy tells us that the period before formalized schooling is an important time for the development of the fundamental underlying skills that make reading and comprehension possible. This section begins with a broad overview of how and why we know that these skills are important. To do this, we look at what research tells us about learning to read. Learning to read is not the whole of “literacy,” but learning to read is centrally important to being able to engage in literate lives.

Research tells us that struggling with reading in kindergarten is highly predictive of poor reading skills in fourth grade. Given this, a central focus in early childhood practice needs to be “setting the table” for learning to read. This means giving children a set of tools to help them engage with reading in an almost seamless manner when they reach the age of formalized schooling (usually kindergarten). To know what tools children need, we need to know existing findings from research.

Extensive research has shown us that there are two main elements of learning to read that support future reading skills: decoding and comprehension. Decoding (the ability to break apart sounds and/or recognize sight words in order to read them) and comprehension (the ability to understand what the words mean) are two skills that both support one another and have unique importance. These two skills work together to make a child a successful reader. However, it is not a given that a child who is successful at one skill will also be successful with the other. For example, a child may be a skilled decoder—able to read nearly any word—but may still struggle to comprehend the meaning of a story or passage. In contrast, some children may

understand a story concept when it is read to them, but struggle to decode words.

It is important for early childhood teachers to be able to understand and identify these skills so that they may be brought together in order to help children become successful readers. When children do not have basic skills necessary to support these two processes, literacy is much more difficult to achieve. In addition, there is growing understanding that content knowledge is central to helping children in decoding and comprehending text. In other words, when children understand or have information about the topic at hand, including defining key vocabulary and explaining key concepts, it is much easier for them to decode and comprehend text when they read independently.

This quick overview of reading research tells us a few important things about literacy practices in early childhood. First, in order to be successful decoders of text, children need to be able to identify letters and sounds (including blends). Second, children need lots of experiences with books to help them practice both letter identification and decoding (often just through listening and watching an adult read aloud). They need to see how books are read, to understand conventions of text, and to understand that letters grouped together make words. Furthermore, children need to see adults—teachers, parents, and community members—reading for enjoyment, to figure things out, and to make their way through the world. This base of research points to three main areas where educators can focus their attention in helping young children build strong prereading and early reading skills.

Best Practices in Early Childhood Literacy

There is now broad consensus among researchers that children need explicit experiences with learning basic literacy skills, implicit opportunities for engaging with texts that fit their abilities and interests, and teachers who can leverage these approaches into rich, interactive conversations and lessons across a variety of genres. In particular, explicit teaching strategies, such as defining words and concepts during shared book reading

and engaging in rich back-and-forth interactions about the text, provide young children with new conceptual knowledge, provide broad exposure to high-quality vocabulary, and endow them with a passion for reading. Explicit strategies also include implementing lessons where children learn letter names, sounds, and blends.

Implicit strategies support and scaffold these explicit strategies—making materials available in the environment that allow children to use their emerging literacy skills—writing and reading materials in different centers around the classroom, hands-on materials such as letter puzzles and magnets, a rich selection of books to choose and explore on their own or to bring to a teacher or family member to read together, and labels and pictures around the classroom that reinforce basic skills knowledge. This also means plenty of time to explore and read high-quality children's books across many genres; to engage with teachers in reading, instruction, and conversation; and to play with the plentiful literacy materials. Bringing together both approaches to literacy learning creates a balanced approach that gives children basic skills and many opportunities for engaging in pre-reading activities.

In early childhood, play is an area of primary importance for gaining literacy skills. Play-based experiences include times where children are directing play—choosing materials, scenarios, and actions—and other times where teachers can also engage in play to help direct activities toward certain experiences, or toward the engagement with specific materials and/or ideas. Play is a time when children often use advanced language, or imitate adult literacy strategies, such as “reading” aloud to friends or stuffed animals, or “writing” down an order in the play kitchen. A great deal of evidence exists that when literacy materials are present in play areas (such as pencils and clipboards in the kitchen areas, or books in the babies/stuffed animals area), children are more likely to practice these literacy skills. When teachers engage in play with children—often posing problems or raising new questions or ideas—play can expand to include other experiences children might not otherwise consider.

Research also highlights the important role that teacher and child interactions have in early childhood settings. For example, while reading aloud will help children develop some conceptual and vocabulary-related knowledge, several studies have shown that some explicit vocabulary instruction—where teachers define and use words in sentences with the children—can have much greater effects. However, other studies have shown that early childhood teachers tend to shy away from this type of instruction, and instead rely on more passive strategies, such as shared book read-alouds. More explicit strategies to build conceptual and vocabulary knowledge, however, are particularly important for children who are already considered to be at risk. Children living in poverty are at particular risk of being far behind their more affluent peers in terms of vocabulary knowledge. As the earlier reading research pointed out, once children are struggling readers in kindergarten, it may be difficult to change the course of their experiences. Given this knowledge, early childhood teachers and caregivers need to create opportunities for discussion with children while reading. This includes helping children learn vocabulary by defining words, modeling use of those words, and encouraging children to ask questions during shared book readings to gain better and broader understandings of vocabulary.

One other area within early childhood literacy that needs attention is the kind of texts that we choose to read with young children. Traditionally, an emphasis on literacy in early childhood settings has focused on reading more with children and using specific strategies to develop knowledge of books. Consideration of what types of texts, such as rhyming, narrative, or informational, has been secondary. However, many early childhood researchers have been recently studying the importance of information texts—texts which include nonfiction subjects rich with conceptual knowledge and vocabulary—for young children. Through broad exposure to different types of text, children have greater access to broad vocabulary and conceptual knowledge that are building blocks for well-developed reading skills.

Best practices in early childhood settings should promote research-based approaches to literacy, and teacher educators need to prepare preservice and practicing teachers to use these strategies. Primary importance should be placed on integrating access and attention to basic skills within developmentally appropriate approaches to curriculum and design of the environment. To do this, practitioners and teacher educators need to deeply consider the ways in which they are currently approaching literacy in early childhood settings, and make changes that reflect our growing knowledge of what works best for helping young children become successful readers.

Highlighting Literacy in Daily Practice

Given what we know about how children learn to read and use literacy skills in their daily lives, early childhood teachers can provide many rich experiences within the classroom. In order to meet the goal of a literate society, teachers must use curriculum that is evidence- and research-based, provide environments that are rich with print, and engage children with books, technology, and materials that promote basic literacy skills as building blocks for future learning. Some examples include the following:

- Making print visible and accessible in the classroom via hands-on literacy materials and walls that “speak” with visible literacy tools
- Teacher use of rich, complex language to define new words and use new words in everyday conversation
- Linking vocabulary and concepts through the reading of information texts
- Locating and reading print throughout the day
- Using appropriate technology to help children practice literacy skills

Working to identify these and other strategies and to implement them into the daily practice of early childhood teachers is centrally important to improving literacy outcomes for all children.

Beyond practices in the early childhood classrooms, teachers can serve as important guides and

supporters for families and communities wondering how to better prepare young children for reading. School-based literacy practices, of course, build on existing experiences that children have with literacy in their homes and communities. When families and communities are unsure of how to provide these experiences, early childhood teachers can help to highlight the ways in which print, and thereby literacy, is all around us. In addition, teachers can help families highlight the ways in which literacy is a part of their daily lives, as well as seek to better understand the ways in which families are already engaging in literacy practices. From this recognition of existing practices, teachers and families can provide mutual support to help prepare children for literate futures.

Looking Forward

As educators begin to engage with new expectations and new standards for early childhood literacy under the Common Core approach, we should all consider how best to help children engage with literacy throughout their daily lives. A focus on research-based approaches to literacy learning for young children will certainly help them make the greatest gains and prepare them for the academic challenges that lie ahead. Being knowledgeable of what research has shown us, and implementing these strategies within early childhood classrooms, is of essential importance—particularly for at-risk children.

This is of particular importance as children who are served in early childhood settings continue to come from ever more diverse backgrounds. For example, supporting the language and early literacy skills of English language learners will take special training and recognition of building literacy skills in both native and acquired languages. Similarly, children who are at risk due to poverty or family instability will need special attention from teachers in order to make sure that gaps in early language and literacy experiences are narrowed through high-quality early childhood educational experiences. To do this, early childhood teachers will have to attend to specific areas of literacy—such as helping children grow their vocabulary and conceptual

knowledge. Teaching vocabulary to young children is not without its challenges, but certain early childhood practices—such as shared book reading during morning meeting times—offer many opportunities for talking about words and using new words in new contexts.

Teacher educators and researchers must work together to take this growing body of knowledge and merge it into teacher preparation and professional development programs so that young children might have the best possible opportunities for learning to read well and with enjoyment. While this presents a challenge, it is certainly one that can and must be met within the early childhood community.

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See also Common Core State Standards; Language Development; Language Development, Theories of; Literacy Assessment; Literacy-Enhanced Props; Oral Language Development; Read-Alouds; Reading

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LITERACY ASSESSMENT

Literacy assessment is the evaluation of literacy skills to understand how young children are developing and performing in the domain of literacy. Literacy assessment can be formative or summative. Formative assessment is when data collected from assessment is used to “look forward” for planning purposes. It is used to provide information to educators and caregivers to support children's learning. Literacy assessments can also be summative and used to “look backward” to provide a summary thus far of children's learning at a set point in time. Literacy is a complex, multifaceted domain of development for young children and there are key areas of literacy to consider for assessment in early childhood education.

What Literacy Skills Are Important to Assess?

Literacy is just one part of a child's development and thus does not develop in isolation from other areas of development or from other domains such as math, science, and physical development. Literacy assessment must focus on key literacy skills, but in a way that applies the knowledge to meaningful tasks wherever possible. Literacy assessment should not be used to narrow the early childhood curriculum in order to focus on rote skills such as letter identification. The key areas of literacy for early childhood that should be considered for assessment are oral language, alphabetic code, print knowledge, comprehension, and writing.

Oral language includes listening comprehension, verbal expression, and vocabulary development. Vocabulary development can be separated into two distinct categories to assess: Expressive vocabulary is language that the child produces and receptive vocabulary relates to the words that children are able to understand when heard in context.

Alphabetic code consists of alphabet knowledge and phonological awareness. Phonological awareness is the awareness of the sounds of words in

learning to read and spell, and is assessed by the detection and manipulation of sounds at three levels of sound structure: syllables (e.g., ro-bot, o-pen, and rec-tan-gle), onset and rime (separating the first sound from the rest of the word; e.g., /c/ /at/ and /sh/ /ip/), and phonemes (individual sounds; e.g., /t/ /ü/ /b/ and /s/ /ö/ /k/). Phonics is connecting sounds to the letters that represent them and is related to phonological awareness. Although it may be occasionally important to assess these code skills in isolation to know the full extent of a child's understanding of letters and sounds, phonemic awareness does not need to be tested too frequently. In fact, knowing these skills in isolation does not imply that a child is able to apply the knowledge in context of reading and writing. Measures that look at the use of these skills in context are important for both assessing and instructing.

Concepts of print refer to what emergent readers need to understand about how printed language works and how it represents language and meaning. These concepts include knowing how to hold a book the appropriate way, differentiating between print and pictures, understanding that one reads left to right and top to bottom, that letters are individual units, and that letters make up words. Assessing concepts of print is best done with a text in a natural interaction between child and adult.

Comprehension of text is another key literacy skill important to assess as children develop through the early childhood years. The child's understanding of text is demonstrated through retelling and summarizing the story or information presented. For young children, this is assessed with retellings of stories using prompts from the teacher or text. For older children, comprehension is assessed by looking closely at the details of the retelling or summary that is presented either orally or in writing. These retellings and summaries develop through the early childhood years from identifying favorite books to knowing the beginning, middle, and end of a story and on to a thorough summary of material.

Writing is a combination of several early literacy skills. Children demonstrate their understanding of concepts of print, alphabetic knowledge, phonological awareness, and communication capabilities.

Therefore, assessing children's writing products is an effective way of understanding what the child knows about literacy. Writing can be divided into two concepts to assess. The first is composing or examining how the child uses writing to communicate thoughts. The other is production that evaluates how the child produces the writing such as stringing letters to form words and then working thoughts together cohesively. Writing is easily evaluated from marks on the page of a toddler to the well-written essay of an 8-year-old child. Often rubrics are used to analyze children's writing, as discussed later in the entry.

Why Is Assessing Literacy Important?

Literacy assessments are valuable for several reasons. First, teachers working directly with children must use assessment data to inform their instruction and interactions with each child. This formative assessment provides the data for differentiating instruction based on where the child is on the developmental continuum. Literacy assessments will also identify the need for special services by raising flags of concern about development or by highlighting advanced development. Second, aggregate classroom data informs teachers about the needs for the class and influences class goals that are developed based on literacy abilities of the group as a whole. Third, looking at literacy data across teachers in schools or programs provides information about professional development needs for teachers. For example, if children consistently score low or demonstrate little growth in a particular literacy skill, such as phonological awareness or writing, this may indicate that teachers need support in how to provide effective instruction and support in the identified area. Finally, literacy assessment data can be used to evaluate the impact of a program or the effectiveness of an intervention. Conducting pre- and post-assessments to compare groups that received the treatment will provide valuable information about the effects of the intervention.

Literacy skills are critical to present and future learning as literacy transcends all learning domains. Examples of this transcendence are applying

writing skills for science journals, using reading skills for understanding math word problems, and relating vocabulary development to social studies understanding. Early literacy skills have been shown to have moderate to strong relationships with later literacy skills such as decoding, comprehension, and spelling. There is strong evidence that early precursors to literacy such as alphabetic knowledge, phonological awareness, concepts of print, and writing are highly related to later literacy proficiency. Although important, the relationship of these “code skills” with later literacy learning should not overshadow the importance of language and comprehension development in the early years.

Literacy develops rapidly during early childhood. For instance, children develop from infancy to oral language, recognizing several letters and actively engaging with text in 2 to 3 years. From kindergarten through second or third grade, young children develop from identifying letters and sounds to reading texts fluently. Assessment of early literacy skills and development provides necessary information to teachers, parents, caregivers, and other adults about this rapid development and can flag concerns about a child’s literacy development.

How to Assess Literacy

Just as there are many uses for literacy assessment data, there are multiple methods of assessing literacy. The variety of methods fulfills specific purposes for data use provided by each assessment approach. Some methods are formal and others informal, but all can be used to obtain information about the literacy development of young children. Assessments can be administered on-demand as one snapshot of a child’s literacy ability or data may be collected over a specific time period to evaluate literacy skill development.

Screening assessments are used to determine whether skills are progressing as expected or when there may be a need to further investigate. Screenings are generally examinations of basic developmental skills, such as phonological awareness, that are implemented to flag concerns and indicate when further assessments are needed. Diagnostic

tests provide a specific in-depth look at literacy skills for decision making about remedial instruction or special services. Formal standardized tests of literacy that are norm referenced provide a look at children’s skills compared to similar-aged peers.

Standards-based literacy assessments relate to key learning benchmarks, assisting early childhood teachers as they plan for literacy instruction. Observational assessment is one type of standards-based data collection. Teachers or caregivers observe children over time and record evidence of their learning in the natural environment. Literacy development rubrics are valuable scoring tools that identify specific criteria to be met. Rubrics show the developmental continuum of various literacy skills such as writing or vocabulary. Checklists and rating scales that are based on developmental expectations and are completed by teachers or caregivers provide a quick appraisal of a child’s skills.

Considerations

Reliability and validity of assessments are critical components to consider in literacy assessment. Reliability is the consistency of the measure. If an assessment does not produce consistent results then the results are not likely to accurately reflect a child’s literacy development. Validity of an assessment is the extent to which the assessment measures what it purports to measure. For instance, an assessment of reading comprehension should be an accurate measure of children’s understanding of text and not be clouded by other skills such as vocabulary. Validity can be measured in several ways. Concurrent validity is how the assessment relates to similar assessments. Content validity is the degree to which the scores yielded by a test adequately represent the content. Predictive validity is the degree to which the predictions made by an assessment are confirmed by later behavior. All forms of validity are important to consider when using literacy assessments.

Another consideration when selecting literacy assessments is for the assessment to be culturally and linguistically appropriate for the targeted audience. This is to say that assessments should be free of bias with regard to language or culture.

Assessing children in their native language whenever possible provides the most accurate picture of a young child's literacy understanding.

Lastly, it is best to obtain several measures of children's literacy development before making high-stakes decisions. This includes making judgments about services for a child or the continuation of a program or intervention. Collecting sufficient data to have confidence in the decisions made is necessary.

Shannon Riley-Ayers

See also Assessment, Limitations of; Authentic Assessment; Checklists and Rating Scales; Differentiation; Documentation; Literacy

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literacy skills. Classrooms that provide children with a high-quality literacy environment are carefully arranged and contain a variety of literacy-enhanced props that refer to tangible literacy materials or resources (e.g., books, writing tools). Scholars such as Lee McGee have found that literacy-rich classroom environments for young children are rare. This entry discusses how early childhood educators might create classrooms that support literacy for young children by inserting literacy-enhanced props into their classroom environments.

Literacy-enhanced props include narrative and informational books, print props (e.g., posters), and writing tools and materials. A collection of high-interest children's books influences the nature of children's literacy activities and fosters their literacy skills. McGee suggests that almost all early childhood classrooms have narrative books, yet lack books constituting other text genres such as informational books. Early childhood educators consider the following two criteria for the selection of books to enrich literacy props in their classrooms. First, books need to represent different genres such as narrative, informational, alphabet, poetry, and concept books. A variety of book genres can address children's variety of interests as well as motivation to read while promoting their literacy development. Second, books should range in the level of difficulty from simple to more complex texts and relate to the current theme as well as ongoing learning activities that take place in the classroom routine. For example, if the class was studying weather, then narrative (e.g., *Freddy the Frogcaster*) and informational books (e.g., *How Does Weather Change*) connected to this topic should be included. When a new topic (e.g., plants) is introduced, the old sets of books related to the previous topic can be replaced with new ones.

Print props (e.g., posters) are another type of literacy-enhanced prop that can help children discover how spoken words can be represented in print. McGee suggests that early childhood classrooms provide children with only basic print props (e.g., lists, calendars) that may not be powerful enough to facilitate literacy learning. Three more

LITERACY-ENHANCED PROPS

A high-quality classroom literacy environment can positively support young children's emergent

higher-level and engaging types of print props are alphabet word walls, informational displays, and commercial posters. Each of these print props is described next.

Alphabet word walls refer to a display, either on the classroom wall or on a board, that consists of large uppercase and lowercase letters in alphabet order with words that begin with each letter listed below them. The words on the word wall might come from children's names, stories, songs, rhymes, or poems used in the classroom. Informational displays show specific items and include labels (e.g., cubbies labeled with children's names), lists (e.g., birthday charts), directions (e.g., classroom rules), schedules, message boards, and calendars. Finally, commercial posters refer to charts, graphs, or other displays bought at educational supply stores that provide accessible print models for children (e.g., poster that labels colors). When selecting these print props, early childhood educators should (a) determine what function the props serve in the environment (e.g., to inform children of the day's activities), (b) make plans for using these props in everyday school activities, and (c) make sure these props are visible in the classroom.

Writing tools and materials can promote a variety of writing experiences. Early childhood educators might enhance literacy materials related to writing by including the following writing tools and materials in their classrooms: different kinds of paper (e.g., lined paper, unlined paper); writing utensils such as pencils, markers, chalk, and magnetic styluses; writing folders for keeping children's writing products; a chalkboard or dry-erase board; writing worksheets or workbooks; writing portfolios; or a bulletin board for displaying child-generated writing, child-dictated writing, and examples of different forms of writing such as letters. In addition, technology is increasingly recognized for its potential to support children's literacy learning as a writing tool. For example, Douglas Clements and Julie Sarama suggest that young children who use word processors do not worry about making mistakes, have fewer fine motor skills, and enjoy writing. Consequently, early childhood educators might consider providing a variety of technologies

that children can explore and use for writing (e.g., computer, word processor, software packages) in their classrooms. As Susan Neuman and Kathy Roskos recommended, while stocking the classroom with writing materials and tools, early childhood educators should determine if these materials and tools can be used naturally and safely by young children. Several writing tools such as pens or pencils with fairly sharp points can be provided only when educators are available to monitor children's use.

Most importantly, every center in the classroom should be enriched with literacy-enhanced props. With careful thought and planning, literacy-enhanced props such as narrative and informational books, print props (e.g., posters), and writing tools and materials can be incorporated in all areas of the classroom including the classroom library, dramatic play, building, and science areas to support children's literacy explorations.

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See also Assessment, Limitations of; Authentic Assessment; Early Literacy Development; Literacy

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LOOPING

Looping, also called multiyear teaching, multiyear placement, or student–teacher progression, is the practice of having a teacher promoted with his or her students over a period of years. Most often the “loop” is two or three years in duration. This is most common in primary and preprimary education, particularly during transitional developmental periods (e.g., first–second and sixth–eighth grades). Over the years, looping has gained in popularity. This entry provides a brief overview of the origins of looping, discusses research that informs our understanding of the outcomes associated with looping, and identifies some potential challenges of looping.

Origins of Looping

The use of looping as an intentional practice in education had its origins in Waldorf education, which began in Europe and was brought to the United States in 1928. Prior to that, looping in the United States was most often found in settings where additional teaching staff or classrooms were not available (e.g., one-room schoolhouses), which rendered looping an educational necessity. In contemporary settings looping is common in some countries (e.g., China, Germany) and may be also found in educational contexts where resources are limited, such as developing countries or rural settings. Certain educational philosophies, such as Waldorf and Montessori schools, also incorporate looping into their educational approach. In the

United States some schools use looping or multi-year classrooms as part of their standard educational practice.

Looping is found throughout the world and educational span. For instance, China has been using looping as students transition to new school settings—primary, middle, and high schools. Preschools in Italy rely on a 3-year looping cycle, with students staying with the same teacher and peer cohort throughout their preprimary years. Within the United States looping has experienced periodic increases in popularity over time and educational history, with use primarily focusing on the early years of education. Different goals and considerations are typically invoked as the rationale for the use of looping across different stages of education.

Outcomes Associated With Looping

Research has revealed that students in looping classrooms benefited academically by remaining with the same teacher and classmates for successive years. Proponents of looping often argue that looping allows for developmental differences by gender, disability status, and individual variation in a way that is not possible when students are promoted to the next grade after just 9 months of instructional time.

Studies have reported that looping has potential social benefits for students, including more time to establish positive peer relationships and increased opportunities for shy students to develop self-confidence. Other research reports that looping helps teachers to understand the needs of individual students and allows for more sustained classroom relationships. In addition to potential academic benefits, teachers, parents, and administrators have generally endorsed looping practices. Other positive outcomes associated with looping include improved student confidence, more stability, stronger student–teacher relationships and an increased sense of belonging. Research has also revealed that looping supports continuous learning, helps minimize retention, and avoids the need to start from scratch each year.

Multiple studies have looked at looping classrooms to explore academic and social outcomes. A

comparison of preschool children in looping and traditional classrooms found that students in looping classrooms performed better on personal and social development but lower on mathematical thinking. Among elementary students some studies have found that students in looping classrooms had significantly higher academic performance in both reading and math. Additionally, students in looping classrooms have been found to have significantly better attendance and lower rates of retention than students in comparison classrooms. Some evidence has suggested that looping may have particular benefit for at-risk children or those children with less stability at home.

Challenges of Looping

Challenges in looping can and do occur. Students could be placed with an ineffective teacher, or highly effective teachers could be assigned a troublesome group of students. Sometimes, students in looping classrooms are together for too much time and peer interactions become wearisome or take on a sibling-like quality. Even if teachers and students are not problematic in their own right, student-teacher mismatches can result in a dynamic that does not benefit either the student or the teacher. Additionally, looping poses challenges for newcomer students entering mid loop and for the whole cohort when the time comes for them to transition out of the loop.

Teachers may also struggle with the challenges of looping classrooms, particularly the need to be familiar with and prepared to teach multiple years of curriculum. Even effective teachers inevitably have areas of weakness that may get magnified when perpetuated for students in their class over multiple years. Ineffective teachers are even more problematic and may leave students with lapses in their learning that are difficult to overcome. Even so, there is strong evidence that looping can be a highly effective strategy for teaching and learning.

Conclusion

Looping is an educational practice with historical roots in one-room schoolhouses and the Waldorf

approach to education. The idea of continuing to keep students with the same peer cohort and teacher over time is used around the world at various grade levels, for students from preschool to high school. Looping has been touted as a good education practice for reasons ranging from providing a more developmentally appropriate context to improved academic outcomes. While challenges, such as poor student-teacher fit, have been relayed as concerns of looping, the majority of evidence supports this practice. Nonetheless, looping remains the exception, rather than the norm, in American classrooms. Despite this, looping continues to be an educational option that may offer some advantages for those seeking additional methods for successful outcomes in early childhood education.

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Rachel Stein, and Cecile Binmoeller

See also Multiage Education; Multiage Spaces; Primary Grade Learning Spaces; Primary Grades

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M

MASTER TEACHERS

Master teachers in early childhood settings include those who teach and care for infants, toddlers, and children younger than 5 years old. Frequently, these educators and caregivers work outside public schools, most often in child care, Head Start, or nursery school settings. Notions of mastery in early childhood care and education settings go beyond proficiency in academic disciplines to include a knowledge base in developmental psychology, family systems, and curriculum development while understanding how to meet the needs of diverse populations through observation and assessment of young children's behaviors. The master teacher is also considered a leader and a mentor to his or her peers.

Dispositional Attributes

Dispositions, or habits of mind, include attitudes, professional behaviors, ethics, values, beliefs, and perceptions, and are of a psychological nature, yet do not remain hidden. They are manifest in a teacher's actions. Master teachers display dispositions embodied in their communication skills, their development of nurturing environments, reflective teaching, and the ability to participate in reflexive dialogues. Additionally, attention given to moral and ethical aspects of caring for and educating

diverse young children is a disposition displayed by the master teacher.

While it can be said that many of the interpersonal skills required of excellent teachers are necessarily found in all classrooms, often the relationships between caregivers and teachers of young children and the children and the families with whom they work are different from those found in elementary and certainly secondary school settings. Master teachers of the very young are expected to present a steady flow of information to the family regarding their child's experiences outside of the home. Those who care for and educate infants and toddlers are responsible for daily reports to family members, notating behaviors, developmental milestones, and physical needs that were met. The master teacher of preschool children continues this open line of communication to families, often in the form of written narrative reports. These include descriptions of the child's evolving academic or content area interests, social interactions and emotional well-being, language development, creative and aesthetic encounters, and physical development.

Master teachers of the youngest children are adept at what Nel Noddings calls ethical caring. They respect the individual child, coming to know each child's funds of knowledge, interests, and abilities. Master teachers consider the young learner to be a child first, seldom using the term "student" in the traditional and hierarchical sense

of the teacher–pupil relationship. While empathetic, master teachers do not assess children from a deficit standpoint in which a child's absence of understanding or yet-to-be-developed skills drive instruction. A master teacher considers himself or herself a coinvestigator and facilitator in dialogue with the young learner.

Dispositional attributes found in master teachers are also evident in their ability to reflect on their own teaching practices. As defined generally by John Dewey, and later, speaking more specifically of teachers, by Donald Schön, the excellent educator is adept at reflecting on experience by reflecting-in-action and reflecting-on-action. The skilled teacher consciously thinks about the interaction and experience of the child while in the act of teaching, or after observing and assessing a child's learning experience. The gifted teacher who is dedicated to fairness and equity then reflects-for-action, and plans further curricular experiences that may include his or her own active engagement in changing ineffective or detrimental educational policies, and working toward social justice.

Master teachers are accessible, caring, and enthusiastic. They are welcoming to children and families, peers, and their own mentors. Often this approach to teaching and learning leads the master teacher to mentor others. Master teachers' enthusiasm lends itself to the caring community they have nurtured in the classroom, and easily attracts other adults to want to learn from them.

Knowledge Base and Formal Education

Master early childhood educators possess a deep commitment to lifelong learning. They are interested in the world around them, and they know that in order to present features of this world to the children in their care they must condense and interpret them in ways that young children can comprehend. They are therefore willing and eager to acquire new knowledge regarding a range of subject matter. They are committed to responding to children's interests by developing their own eclectic knowledge about the query. Master teachers model investigation and discovery while offering

children appropriate experiences in which they can experiment, question, imagine, and decide.

Expert early childhood educators possess a professional knowledge base. Besides acquiring content knowledge, they have examined child development, inclusive and multicultural methodologies, and appropriate assessment to understand how to engage young children. The master early childhood educator then understands how to adapt content knowledge into pedagogy appropriate for the individual child, and for the culture and setting in which the learning takes place.

Master teachers' knowledge of content area methodologies allows them to teach curricular objectives through meaningful experiences for young children. Through differentiated and individualized instruction based on a deep understanding of how young children learn, the expert modifies his or her approach, refines his or her language, or adds materials to help the child achieve success and mastery. Therefore the master teacher develops learning goals that are developmentally and culturally appropriate.

Master teachers may use child-centered approaches as well as teacher-directed instruction when necessary. They are versed in pedagogies that meet the needs of the typical as well as the atypical learner. They will draw on their knowledge of learning theories and educational philosophies, curricular models, and instructional approaches to make the best fit for the child within a particular care and education setting. The master teacher therefore teaches intentionally and sets learning goals, as compared to performance goals, for both the group and the individual child.

Approaching learning from an inquiry standpoint, the early childhood educator understands that exploration and discovery drive deep learning, and therefore observes and assesses children's interests and nurtures an emergent curriculum to match. Often using a project approach, master early childhood educators ensure that all content areas are integrated into the work around a given subject of study. They have learned how to ask good questions—those that probe children's prior knowledge and current understandings, and promote activity and reasoning. They offer hands-on

experiences that allow children opportunities to discover and form their own ideas through active participation. Master teachers value “wrong ideas” for their contribution to understanding what something is or is not. Importantly, they schedule enough time for these investigations and understand the importance of repetition. They are, above all, skilled at guiding and instilling in young children the dispositions to become active and lifelong learners through the use of conjecturing, observing, categorizing, theorizing, investigating, and making and sharing meaning.

Master Teacher as Mentor

The expression *master teacher* also indicates someone whose role it is to provide coaching and mentoring to other teachers, usually those new to the field. Therefore, it is important that master teachers participate in ongoing professional development so they can become skilled in recognizing and embodying the qualities necessary for a successful mentored relationship. Master teachers who serve as mentors of novice early childhood caregivers and educators should have numerous years of experience working with young children in group settings. They should embody the attributes listed earlier and be in what Lilian Katz describes as “the mature stage” of their teaching careers. They will therefore be squarely situated in their own practice, seeing themselves as professionals who take a philosophical as well as a practical approach to the work of educating and caring for young children.

While master teachers’ expertise in early childhood pedagogies is important, they must also be knowledgeable about the needs of the adult learner and practice appropriate principles of supervision in educational settings. These include, but are not limited to, awareness of adult learners’ need to know why something is of value to be learned *before* they learn it. The master teacher must also support the adult learner’s self-concept as being responsible for his or her own learning. Adults come with a wide range of experiences that influence their responses to educational techniques and situations. Therefore, as he or she does with young

children, the master teacher should engage in a process of mutual inquiry with the adult learner. Along these lines, the master teacher as mentor will recognize the adult learner as someone who has a life-centered orientation to learning and will plan ways to help the learner apply the new information to real-life contexts and relevant situations.

The master teacher knows that good mentoring relationships are built on mutual comfort and respect. He or she understands how a trusting relationship will allow both participants to be open to ideas, practice reflection, and welcome dynamic assessment. Master teachers who are ready to mentor others have by this time examined their interactions with their peers, their administrative and managerial styles, and their own professional ethics. And, since master teachers are proficient in reflecting on their own teaching, they have cultivated a consciousness regarding their own beliefs and experiences pertaining to race, gender, class, sexual orientation, and ability. Therefore, they will be in a better position to demand a critical and honest reflection from their mentees.

By scaffolding and contextualizing the mentee’s education, the master teacher will also be prepared for occasions when the learner relies on “customary” knowledge—or information handed down as “The Truth.” Because they can trust their own insights into contextualized learning, master teachers know that “settled knowledge” is only one component of the countless ways of experiencing knowledge, and will take steps to challenge societal definitions that may constrain both their own and the mentee’s development.

The master teacher as mentor will enact supervision, not evaluation. He or she will observe and listen. He or she will arrange teacher meetings that not only allow peer observation, but also develop coaching and mentoring protocols for future mentors. By modeling instructional strategies and ways to document children’s learning, the master teacher as mentor will assist the novice teacher in ways to gather objective evidence to assess children’s development in all areas of growth.

If working with a group of educators, a master teacher will practice and support reflexivity.

Reflexivity occurs when participants are aware of the shared nature of reflecting, including who is present, who “has voice,” and who may be silent. In understanding that learning is always influenced by the setting in which that learning takes place, the master teacher as mentor will ensure that everyone in the group is willing to learn from one another’s perspectives and experiences. He or she will also help participants locate and use reflexive practice as a resource from which they can move toward defining and enacting their visions of excellence in teaching.

Finally, master teachers will participate in their own ongoing professional development by engaging with other mentors or coaches and educational specialists to improve their work. They will have attended high-level professional development workshops and conferences that address the roles of the master teacher or mentor, so that they may have a positive impact on the school environment by conveying new ideas to their mentees.

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See also Caring; Coaching; Content Knowledge; Ethics in Early Childhood Education; Family Partnerships; Identifying as an Early Childhood Professional; Intentional Teaching; Mentors; Professionalism

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MATERNAL WORK STATUS

Maternal work status is a key family factor that is linked with young children’s education. Does having a mother stay at home benefit the early development of her children? Does having an employed mother pose a risk for early child development or confer benefits? These questions have dogged the field of developmental psychology because they trigger concerns about the effects of maternal deprivation on children and raise issues about socialization processes that are essential to children’s cognitive and social development. At the same time, however, maternal employment provides opportunities for increased economic resources and enhanced adult well-being. Implicitly, questions about maternal employment when children are young tap into values and attitudes about the roles of women in society and beliefs about best child-rearing practices.

Well-studied and most controversial is maternal employment during children’s first 3 years, a time considered particularly sensitive for brain development. Complicating attempts to draw conclusions about maternal work in relation to early child development are varying definitions of employment, varying research designs, varying child outcomes, and the moderating influence of contextual factors. All these factors are explored in detail in this entry.

Definitions of Work Status

An interesting duality that persists even today, for academic and lay persons alike, is the fact that

mothers being employed is controversial, whereas for fathers, it is their being *unemployed* that is controversial. Viewing mothers as employed or not has been criticized for being a mere “social address” or “empty set, bereft of any structure or content” (Bronfenbrenner & Crouter, 1982, p. 41). Nonetheless, this dichotomy has continued to characterize much of the research on maternal employment. Particularly concerning to many is full-time employment; the Bureau of Labor statistics define full-time work as 35 or more hours per week. Researchers who study maternal employment have used boundaries that range from 30 to 40 hours per week. Sometimes employment is trifurcated into full time, part time, and nonemployment. Officially, part time is 1 to 34 hours per week. In research, the high end for part-time maternal employment co-varies with the cut-off for full-time work; at the low end, some researchers set a minimum such as 5 hours per week. Still others divide part-time employment into low and high. It is difficult to compare “apples to apples” when the categories change across studies.

Varying Research Designs

When studying maternal employment and child development, random assignment is not possible. Although researchers may use words such as *effects*, *influences*, and *consequences*, most study designs concerning maternal employment are correlational and rely on single time measurements. In these types of studies, children of a certain age whose mothers are employed are compared on some dimension to peers whose mothers are not employed. Stronger designs are longitudinal, the best known of which are the National Longitudinal Study of Youth and the National Institute of Child Health and Human Development (NICHD) Study of Early Child Care and Youth Development. These two large datasets have been the basis for numerous articles and monographs on early and later maternal employment in relation to concurrent and later aspects of child development.

Studies also vary in the type of instruments used, ranging from maternal questionnaires and

interviews to teacher reports to third-party assessments using standardized tools as well as structured and unstructured observations of young children. Although most studies position maternal employment as the independent variable, bidirectional pathways exist, whereby characteristics of the child, such as health, influence maternal work activities.

Varying Child Outcomes

Many facets of child development have been studied in relation to maternal work status, including social relational (e.g., attachment, peer relations), cognitive (including achievement), physical and mental health (e.g., obesity, depression), gender (including roles and ideology), and behavior (including positive and problem behaviors). Most relevant for early child education are cognitive/achievement-related outcomes, which build on prior knowledge and experiences and may be particularly vulnerable to environmental influences. Rachel G. Lucas-Thompson, Wendy A. Goldberg, and JoAnn Prause’s 2010 meta-analysis of five decades of studies on maternal work status during early childhood and children’s achievement produced mostly nonsignificant effect sizes; however, a notable exception was the small, significant main effect between early maternal employment and teacher ratings of higher achievement.

Contextual Factors

Mothers’ work is a contextual factor from the point of view of the child, and work itself is embedded in a larger social context. The study of mothers’ employment compels us to consider linkages among the settings of home, school and child care, and the workplace. Important to early childhood education is how well those linkages are functioning. Practices and policies in the macro environment have an impact on the quality of the connections among the major settings in mothers’ and children’s lives.

Significant moderators of the associations between maternal work status and child outcomes,

based on single studies and meta-analyses, include one- or two-parent family structure, socioeconomic status, alternate care arrangements, child gender, mothers' satisfaction with work, timing of return to work, workplace characteristics, and fathers' employment. For example, in the meta-analysis by Lucas-Thompson and colleagues, there were small, positive effects for achievement when families were at risk economically, but small negative effects when families were middle class or upper class.

The association between early maternal employment and performance on formal achievement tests was small and positive for one-parent families but small and negative for two-parent families. When adjustments were made for child care, associations between early maternal employment and IQ test performance were negative but nonsignificant with other aspects of achievement. In terms of the timing of maternal employment, the meta-analysis found small, negative associations for achievement when mothers worked in the child's first year, but small, positive linkages when they worked in years two and three. Other research has shown that the intensity of maternal employment during the child's first year is particularly important.

Maternal work status is an important factor to consider in relation to early child development, but it does not operate alone. Study characteristics and contextual factors must be considered when evaluating the connections between maternal employment and early childhood education/achievement. Finally, employed and non-employed women often differ on a variety of measured and unmeasured socioeconomic, demographic, and psychological characteristics that may cause selection bias and account for some differences in child development that, if left uncontrolled, could erroneously be attributed to maternal employment.

Wendy A. Goldberg and
Rachel G. Lucas-Thompson

See also Infant-Parent Relationships; Mothers; Work and Families

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MATURATIONAL THEORY

Arnold Gesell (1880-1961), a pediatrician and psychologist, is the theorist most associated with the maturational theory of development, even though Jean-Jacques Rousseau (1712-1778) first mentioned nature's inner plan or timetable. The primary characteristics of the maturational theory include the following:

- The child develops biologically in a predetermined order from within, unfolding in fixed, predictable sequences or stages.
- Every child goes through the same series of fixed sequences, but each child has his or her unique rate or pace.
- The child is a product of his or her environment, but playing a larger role are genes and human nature: heredity (body type), temperament, culture, health, and intelligence.

The process of biological maturation actually starts at conception with the fertilized embryo. While the cells are rapidly dividing and reproducing, every child develops in the same way: first the central nervous system, then the head, heart, arms, and legs. Likewise, after a child is born the same sequence of development will occur in every child: first the baby gains control of lips and tongue, then

eyes, then head. Next to develop are arms to push up and grab things, rolling over, sitting up, standing, and walking. Both the prenatal and postnatal development happens in a head down to feet (cephalocaudal) process.

Concepts related to the maturational theory are reciprocal interweaving, functional asymmetry, self-regulation, and individuality. Reciprocal interweaving explains how humans who have many instances of two simultaneously developing matching parts of the body (eyes, brain hemispheres, legs, etc.) reach an effective organization of the two. An example of this is handedness. First the child explores one hand, both hands, and the other hand, and eventually settles on preference for one hand over the other.

Functional asymmetry in some ways contradicts this explanation of reciprocal interweaving. While balancing the dualities of hands, eyes, and so on is characteristic of human development, in some cases a degree of asymmetry enhances effectiveness. An early example of this is the infant's tonic neck reflex that is seen primarily in the first 3 months. Infants, when in the supine position with head to one side, will have one arm outstretched and the opposite arm flexed. A later example in development is stepping forward on the right foot while throwing the ball with the right arm.

Self-regulation is the intrinsic ability to maintain a level of equilibrium and overall integration. It is demonstrated even in newborns who, when allowed, regulate their own development by determining their own best schedules for eating, sleeping, and being awake. Older children develop the ability to control themselves and inhibit competing stimuli when confronted with many choices.

Finally, individuality refers to the notion that each child has his or her own pace and development and that each child is unique due to his or her combination of genes, body type, temperament, culture, health, intelligence, and environmental experiences.

According to Gesell's maturational theory, growth and development should be thought of as a cyclical spiral alternating between patterns of equilibrium and disequilibrium, each cycle of the

spiral encompassing the time it takes to move through six stages that alternate between equilibrium (E) and disequilibrium (D). Gesell's cycles of development, and six well-defined stages, are repeated throughout life. One cycle includes the following six stages: smooth (E), break-up (D), sorting out (E), inwardizing (D), expansion (E), and neurotic "fitting together" (D). During the 2 to 4½ year age period (one cycle), each of the six stages lasts about 6 months; but passing through stages is faster in the early months of development and slower in the later months.

Gesell's research also established normative trends for four areas of growth and development, namely (1) motor, (2) adaptive (cognitive), (3) language, and (4) personal-social behavior. Originally published as the *Gesell Developmental Schedules* in 1925, these developmental schedules, most recently updated in 2011, continue to serve and guide pediatricians and psychologists throughout the world today.

Critics of the pure maturational theory call it too simplistic and naive, and point to the indisputable role of the environment and the role of teaching and learning that Gesell viewed as unnecessary hurrying of the child. Maturational theory also emphasized nature over nurture as a determinant of child development. The nature versus nurture "controversy" continues to be discussed; however, experts agree that development is a dynamic process of the mixing of both environment and individual human biology. Critics also challenge the "norms" as being too confining to use with all children and have presented studies of newborns that have abilities that seem to be beyond expectations set by Gesell's norms.

In conclusion, since the maturational theory cannot be empirically proven or disputed, it is best to recognize what the maturational theory has contributed over time to the big picture. Responding to the child's attempt at self-regulation is the basis of today's child-rearing practices. Recognizing how each stage of development has definable characteristics and behaviors leads educators and parents to have appropriate expectations. This also has led to the commercial labeling of toys as

“Appropriate for ages X to X.” Further, maturational theory explains why sooner is not better, but rather that it is simply a developmental difference when a child performs a task before others his or her age. Children who learn to walk at 10 months are not better walkers than those children who learn at 14 months, nor is this difference predictive of children's later motor abilities. Gesell's maturationist theory of stages of development has served as the basis for later stage theories, such as Jean Piaget's theory of cognitive development.

Marcy Guddemi

See also Cognitive Developmental Theory; Developmentally Appropriate Practice; Language Development; Language Development, Theories of; Social-Emotional Development; Stage Theories

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MEASUREMENT, CHILDREN'S UNDERSTANDING OF

Measurement is a mathematical knowledge domain that involves the assignment of a numerical value to a measureable attribute of an object or event. Measurement enables the ordering and comparing of objects and events that are not separately countable. The term *measurement* not only represents a range of mathematical concepts, but it is also a mathematical process (i.e., measuring), whereby the measurement of an object or event is made. This entry provides an overview of children's measurement development, information about the foundation measurement concepts and processes, and an explanation of the different measureable attributes in mathematics.

Overview of Measurement Development

Research has shown that children begin to develop understandings about measurement from a young age. In particular, the research of Douglas Clements has demonstrated that young children are aware of measureable attributes, even though they may not yet be able to quantify or measure them accurately. Young children have an ability to compare and make judgments about quantity, albeit in an informal sense. Most young children know that if they have a quantity of an item, and then they are given more of that item, they have more than they did before. There is much research that shows that most children are able to compare two or more objects and make judgments as to which is the larger or smaller of the group. Young children reason about quantities, including recognition of equality and inequality, and use language to describe quantities and attributes.

A commonly held view is that children's measurement knowledge develops at two levels: *emergent measurement* and *proficient measurement*. Emergent measurement involves children using measurement for their own purposes, representing measurements in ways that make sense to them. Proficient measurement, however, requires comprehension of measurement concepts and processes, and the ability to use this knowledge in flexible, accurate, and efficient ways.

Measurement Concepts and Processes

Learning about measurement and the measuring process involves three key concepts: (1) objects and events have attributes that can be measured, (2) measurement can be used to compare objects and events, and (3) both informal and formal units can be used to measure objects and events.

Measureable Attributes

Measurement development is based on the recognition that objects and events have measureable attributes and that these attributes can be labeled in particular ways. Measureable attributes of objects and events include length, area, volume and capacity, weight and mass, time, temperature, and value/cost (i.e., money).

Length refers to how long something is, whether along a single plane or through two dimensions. Length is the generic term associated with all linear measurement, but linear attributes also include *height*, *width*, and *depth*.

Area refers to the amount of space contained within a two-dimensional shape. A good understanding of linear measurement is prerequisite to area measurement, as the measurement of areas requires the iteration of units in two dimensions.

The term *volume* refers to the amount of space taken up by an object, while the term *capacity* refers to the amount an object can hold. The two attributes are typically developed in tandem as children explore the filling and emptying of objects.

Mass and *weight* are terms that are often used inappropriately, or are incorrectly viewed as interchangeable. Mass refers to the amount of matter in an object, while weight is the term used to describe the force that gravity exerts on an object.

Time is the concept that events occur in a temporal order and have duration. It is an abstract concept that is often quite difficult for young children to grasp. However, there is research that demonstrates that even very young children can engage with concepts of time when they are connected to meaningful everyday experiences.

Temperature can be defined as the warmth or coolness of an object or substance. Temperature is often overlooked by curricula as a measureable attribute; however, it has all the same features as the more commonly recognized measureable attributes, including the ability to be ordered and compared, and the assignment of both informal and formal units of measurement.

Value is another measureable attribute that is often overlooked. However, it is important for children to recognize that objects and events have values that can be measured, and that *money* is a system of formal measurement units.

Comparison

Measurement can be used to compare objects and events. Typically, children first learn to compare by identifying the same attribute in different objects. Children then make judgments about the objects on

the basis of the common attribute. Making judgments can occur by placing the objects against one another, usually along a common baseline. This is known as *direct comparison*. Comparisons between objects can also be made *indirectly*, usually by using another item as a referent.

Units

Units of measurement are tools that can be used to calculate and communicate measurements. Units are used in different ways in different contexts to suit different purposes. In general, the application of units involves identifying a unit of measure, then subdividing the object by that unit, placing the unit end-to-end. This is known as *unit iteration*. This process applies regardless of whether the unit being utilized is formal or informal.

Conclusion

Children's measurement development typically involves understanding three key concepts and processes: recognition of measureable attributes, comparison, and application of informal and formal units. There is much research evidence that children develop measurement knowledge from a young age.

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See also Approaches to Early Mathematics Instruction; Curriculum and Early Childhood Education; Early Number Representation Development; Reasoning and Problem Solving; Spatial Development

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MEASURING EFFECTIVENESS

Measuring effectiveness refers to the systematic collection of data to examine whether a program has achieved its goals. Depending on the program's maturity and funding source, the effectiveness of an early childhood program may be examined for different reasons. For a new experimental program, research on effectiveness examines whether the program is capable of achieving its intended outcomes. Programs that are well established examine effectiveness with the goal of improving over time. Policy makers and funders often are interested in the effectiveness of established programs for purposes of accountability.

While the motivation to measure the effectiveness of programs varies, it is an important activity across the full spectrum of early childhood programs. These programs include public preschools, home visiting programs, Early Head Start and Head Start, child care, and early intervention and preschool special education. Public funds support many programs for young children and their families; policy makers and taxpayers want to know that their investment in these programs is achieving the intended outcomes. Equally important, children and families participate in these programs with an expectation of achieving certain benefits, and it is important that they realize these benefits. This entry discusses the similarities and differences in measuring effectiveness for the following three purposes: knowledge development, program improvement, and accountability.

Knowledge Development: Determining the Potential Effectiveness of a New Program or Intervention

Researchers make a distinction between efficacy and effectiveness studies. Efficacy refers to studying

an intervention or program under optimal conditions. Efficacy studies look at whether something can work. Effectiveness studies look at whether something works in real-world conditions. At the efficacy end of the continuum are well-defined studies of new activities intended to improve one or more child or family outcomes. Examples include a study on a new curriculum for a preschool classroom, such as a literacy curriculum; an evaluation of a media campaign designed to increase the amount of time parents spend reading to their toddlers; and a study of an intervention designed to improve a child's communication skills. On the effectiveness end of the continuum are studies that examine outcomes of large-scale early childhood programs such as the statewide prekindergarten program in Oklahoma or the Abbott preschools in New Jersey. For ease of discussion, *effectiveness* is used in this entry to describe the focus of any study intended to determine whether an activity or a program produced positive outcomes for children, families, or both.

Designing innovative activities and interventions as well as studying their impact on outcomes is likely to be undertaken by university-based researchers. The research team might spend many years developing and refining the curriculum or intervention based on a series of small studies. To determine the effectiveness of a new curriculum, the researcher would identify the intended outcomes and select or develop measures of those outcomes. For example, if the curriculum was designed to improve children's literacy skills then the researchers would identify methods for assessing literacy skills. Groups of children or sets of classrooms would be assigned to receive the curriculum, and there would be a comparable set of classrooms that would not receive the curriculum. Ideally, which set of children receives the curriculum would be determined by random assignment with one or more groups randomly assigned to receive the new program and the other groups excluded from the initiative. The study also might include measures of how well the curriculum was implemented. The study would look at the data for those who received the curriculum and those who

did not, and reach a conclusion about whether the children who received the experimental curriculum performed better than those who did not. Based on the findings, the curriculum developers could modify the curriculum and collect more data, or they might want to examine the curriculum's potential to achieve its outcomes with a different group of children or in different localities until its effectiveness has been thoroughly documented. At this point, the curriculum could be disseminated to a variety of classrooms as having been shown to be effective. In reality, very few curricula or interventions in use in early childhood programs have been examined this thoroughly across a range of conditions; but if they were, teachers and program administrators would be able to make more informed choices about what to implement.

A more complex examination of effectiveness involves looking at the effectiveness of an entire program. Programs are likely to have multiple goals to address a particular social problem. An example is a home visiting program for teen mothers to teach them how to promote their babies' development and to support them in finishing high school and preventing another pregnancy. Another example is a comprehensive preschool program that provides children with access to medical and dental services along with a full-day classroom program and works with parents to help them support their children's learning. Because programs like these have multiple goals, examining their effectiveness requires collecting and analyzing data on the intended outcomes associated with each of these goals. The findings might show the program was successful in achieving some of its goals but not others. Like the simpler curriculum example, the ultimate objective is to demonstrate the effectiveness of the program so the model can be disseminated and replicated more broadly.

Early childhood education offers many examples of programs that have been studied and found to be successful in achieving one or more of their intended outcomes. Two of the most famous are the Perry Preschool Project and the Abecedarian Project, both of which involved providing intensive preschool experiences along with other supports to

young children from low-income families at high risk for low academic achievement. These children were in preschool several decades ago and the researchers have been able to follow the children into adulthood. Although not all intended outcomes were shown to be achieved at all of the time points when the measurements were taken, these projects were able to demonstrate that participating in the program made a significant difference in meaningful outcomes, such as decreased likelihood of incarceration and increased employment, for those who participated compared to those who did not. These kinds of outcomes were not the original goals of the program, but they were achieved nevertheless.

The findings from these studies have been cited repeatedly in policy papers as evidence that providing preschool can make a difference in children's lives. There is no question that these studies produced strong evidence, but what gets lost in the discussion is that "preschool" comes in many varieties. These studies did not examine all possible variations of preschool. Each studied a very intensive, high-quality, well-resourced program that undeniably produced impressive results. These studies have been incredibly important for demonstrating that high-quality early childhood programs have the potential to make remarkable differences in children's lives. These results, however, do not generalize to any program called "preschool," which is why today's preschool programs need to measure their own effectiveness in achieving intended outcomes as part of ongoing program improvement.

Another early childhood program that has been extensively studied is Head Start, the federally funded comprehensive program designed to promote the health and development of 3- and 4-year-olds. Head Start was created in the 1960s and has been the subject of numerous evaluations over its many years of existence. The findings from these evaluations have been inconsistent with studies finding positive effects for none, some, or even many of the outcomes studied. This is not surprising because just as there is more than one kind of preschool, there has been and continues to be more

than one kind of Head Start classroom. Hundreds of different local agencies all over the country administer Head Start. Procedures such as lengthy performance standards are in place to promote uniformly high-quality programming, but with so many centers and classrooms, variation continues to exist. That variation is going to be associated with varying degrees of program quality and effectiveness. Rather than investigate whether Head Start is effective, a more meaningful question for large-scale programs, such as Head Start, would be “Which local programs are most effective and what are the characteristics of those programs?” The answer to this latter question provides the knowledge to support local programs in moving to higher levels of effectiveness.

Program Improvement: Improving the Effectiveness of Established Programs

There will always be a need for the new and innovative approaches to outcomes for children and families. However, many young children are already participating in early childhood programs in their communities and measuring the effectiveness of these programs is just as important as studying new approaches. All early childhood programs should be interested in setting goals and collecting data to see how well they have achieved them. The message from the efficacy studies in early childhood is that early childhood programs can make a difference; ongoing data on effectiveness is needed to see whether or not a program *is* making a difference this year and every year.

The method for determining effectiveness differs for established, ongoing early childhood programs from the random control design used with a new program. Identifying a group of children to be randomly assigned to not receive a program is not a viable method for collecting the kinds of effectiveness data that programs need for program improvement. Random assignment also is not viable in states or communities with universal preschool, where many young children are already in some kind of program, or for required services

such as preschool special education. Some studies have been able to employ powerful alternative research designs, such as a regression discontinuity design, with programs that meet the requirements for this type of study.

Similar to measuring the effectiveness of an experimental program, measuring the effectiveness of established programs requires articulating the goals the programs are trying to achieve. The programs’ goals need to be framed with regard to outcomes for children and, if the programs also support families, outcomes for families as well. A program for 4-year-olds could have a goal of preparing children to be successful in kindergarten. To operationalize this goal and make it measurable, the program might establish benchmarks for learning across multiple domains that clearly indicate where children should be by the end of the program. Such a goal could read, “90% of the children will score at X level on the Y test of literacy skills” or “90% of the children will be able to identify 20 uppercase letters by the end of the year.” Once a program has articulated a set of measurable outcomes and identified measurement strategies, the program then collects and analyzes the data to see if the outcomes were attained. If the answer is no, the program can identify improvement strategies to increase the likelihood of doing better next year.

Creating benchmarks and measuring outcomes to examine program effectiveness is sometimes misinterpreted as advocating for a highly structured or inappropriate curriculum. Creating goals and implementing procedures to measure attainment of those goals is entirely compatible with developmentally appropriate practice. A closely related misinterpretation is that setting a benchmark for children means using a particular measurement strategy. Goals do not dictate pedagogy nor do they require an inappropriate approach to collecting information on what young children know and can do. Early childhood programs should institute ongoing processes for examining effectiveness and to do that they need to consider using the most valid, reliable, and appropriate measurement strategy for their population.

Accountability: Justifying the Need for Established Programs

Examining the effectiveness of established programs to address accountability questions requires the same methodology used for program improvement, but the stakes attached to the data collected are considerably higher because the program's future funding may depend on the results. Although the potential of high-quality early childhood programs has been firmly established, the use of public funds to support these programs varies across states and localities and remains vulnerable to the prevailing political wind. When policy makers look at test score data for elementary and secondary schools, the effectiveness question is always some variation on "does this school need to improve?" and never "should Grade 4 continue to exist?" At some point, the policy landscape might shift sufficiently so that the effectiveness question for early childhood also is always about how to make programs better. Currently, however, early childhood programs that depend on public funds need credible data on the effectiveness of their programs so they can continue to make the case for why public funding should continue to support their programs.

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See also Accountability in Early Care and Education; High-Stakes Standards-Based Accountability Reform; Policy and Early Childhood Education; Program Evaluation; Quality; Quality Rating and Improvement Systems

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MEDIA INFLUENCES ON PLAY

Media and technology are playing an ever-increasing role in children's lives. From prescribed media content created by someone else, to sedentary, push-button electronic games and apps, screens and digital activities are having a worrisome impact on active, creative play with all the benefits to social, emotional, intellectual, and physical development that this type of play can provide.

In 2015, the American Academy of Pediatrics reported on a study by Hilda Kabali and colleagues that found one in seven toddlers uses a device at least one hour per day. Today's teachers and parents need to understand how media is changing play in order to acquire strategies that can promote quality play and optimal development in the media age.

The Benefits of Play

For generations, scholars of early childhood education and development, including Jean Piaget and Lev Vygotsky, have recognized play's vital role in children's social, emotional, intellectual, and physical development and learning. While almost all of them agree it is difficult to come up with a simple definition of play, they recognize play as a primary vehicle through which children construct knowledge and skills. Children use play to try new ideas and behaviors in their own unique, hands-on ways. Through play children develop an understanding of their experience, and an understanding of rule-governed behavior, give-and-take social relationships, cooperation, conflict resolution skills, trust, and resiliency. They learn to be, act, and think creatively, and use symbols to represent experience—thereby laying the foundations for more formal academic content later on. Play also helps young children develop the attitudes, values, and skills they need for school success and much more. It's important to realize that no two children's play will ever be exactly the same. In play children are creating their own scripts, building new ideas onto what they already know.

When children use what they know to actively work out new things on their own through play, not only do they learn something new, they also learn "I can do it!" This sense of power and mastery becomes a strong motivator for further play and learning. In other words, the *content*, *nature*, and *quality of the play process* are all essential aspects of play and learning. So when major new factors, such as technology and media, enter children's lives, it is important to figure out what is going on, what it means for children's development and learning, and what we can do to promote high-quality play in the midst of this significant change.

The Problem With Play Today

Less Time to Play

As children spend more time with screens, they have less time to engage in creative, child-centered play. More research is needed to deepen our understanding of the complex impact of reduced playtime

on human development and learning. However, we know enough about the importance of play to assume that playing less can have worrisome implications.

Changes in What Children Play

According to both Piaget and Vygotsky, the *content* children bring to their creative play comes from their experience—what they know, what interests them, what they are struggling to understand. Today, because more of what children see and know, and what confuses and disturbs them too, comes from media, more of their play content naturally contains characters, behavior, and themes that originate from those screens. Nancy Carlsson-Paige and Diane Levin talk about this in their book, *The War Play Dilemma*.

Much of the content children see in the media also goes against the positive lessons adults who care about children would choose to teach them. Instead, program content is often designed to capture children's attention and to sell them products. This can include content such as narrow gender stereotypes and sexualized behavior, violent conflict resolution, and glorification of drugs and alcohol—often presented without realistic consequences and more appropriate for older children. So more and more, children see content intended to create brand loyalty, consumerism, and age compression (children growing up faster because of what they are exposed to), which they then bring to their play and beyond, as Susan Linn discusses extensively in *Consuming Kids*.

Changes in How Children Play and Learn

Teachers report that more and more of children's play seems to reflect someone else's scripts; that their play is not as original or as creative as it was in the past. It is as if they are trying to replicate the appearance, language, and actions of media characters. Often this play involves using highly structured toys that are replicas of items seen on screens, like swords, wands, or spaceships. As Levin discusses in *Beyond Remote-Controlled Childhood*, structured toys keep children's play focused on the

script and allow little room for branching off in new, child-created, and individualized directions. These seemingly “scripted” activities are more like what Piaget called *imitation* than play—it often seems like children are controlled by what they see on the screen, that is, involved in what Levin has called “remote-controlled play.”

Children who primarily participate in remote-controlled play have trouble being active agents of their own play and learning. They have difficulty finding and solving interesting problems through play, a primary motivator for and source of learning through play—that is, they seem to have what Levin has called problem-solving deficit disorder (PSDD). Children with PSDD often say they are bored when they do not have a screen because they have a hard time coming up with engaging things to do on their own. PSDD in play can also contribute to worrisome academic, social, and life consequences because children may not be developing the strong foundations they need for engaging in active problem solving in the learning process.

Changing Social Development

In the past, much of children’s playtime was spent with other children—siblings, neighbors, and classmates. They built a play history together. Each day they picked up where they left off the day before. Older children taught younger children games such as hopscotch, kickball, jump rope, and hand games. As children got older, they took on helping roles with younger children, thereby learning about nurturing and caring in real-life situations. This has been a gradual process and seems to be correlated with the increase in screen time in children’s lives. For instance, Levin reports on interviews of people over 50 years old about their play when they were young, done by her college students in the play course that she teaches. The students found that all of those over 50 who were interviewed remembered playing outdoors without adult supervision. Some, but not all, of the college students played this way themselves too. But almost none of the college students knew children today who played outdoors this way. Now, there has been a radical

decline in this kind of social-relationship-building play. When families are together, siblings often each have their own screens. Few children are outside playing together in neighborhoods; instead, they are inside connected to screens.

With less time to develop ongoing creative play relationships with each other, which play scholars such as Piaget considered vital for optimal social development, we can expect children to have fewer opportunities to develop all the vital social development skills play can provide, such as cooperation and empathy, conflict resolution, and perspective taking. This can undermine a child’s ability to learn how to build caring, connected relationships in the long run. Reports of increasing levels of bullying, teasing, and mean-spirited behavior at younger and younger ages may be related to reduced play. More research is necessary on this issue, but one can ask how the decline of creative play today might be contributing to what Levin has called compassion deficit disorder (CDD).

Less Physical Activity or Nature Play

More screen time means more indoor and sedentary activity from very young ages. This seems to be the case both at home and at school. For instance, a 2015 study of child care centers by Pooja Tandon, Brian Saelens, and Dimitri Christakis revealed highly sedentary environments with screens present, rather than highly active play opportunities. And in a 2012 Policy Statement, the American Academy of Pediatrics voices concern that as children get older there is a trend to allocate more school time toward the teaching of basic academic skills and away from recess and physical play.

In the past, when rural or urban children were not in school, they were outside playing with neighborhood children morning, noon, and night. Children explored neighborhoods and beyond, including nature areas. Being outside meant leaving the media in the house and playing in the neighborhood. Today, many children spend little independent time outdoors and have few opportunities to explore nature in their environments. With fewer children outside, when a child does go outside there may be no one to play with and it can

also feel less safe. Many children today run the risk of developing what Richard Louv in his 2005 book *Last Child in the Woods* called nature deficit disorder (NDD). In fact, it was concern about the physical well-being of today's children that prompted First Lady Michelle Obama to launch her national Let's Move campaign in 2010.

Reclaiming Play

The impact media and technology are having on play make it vitally important that adults help young children engage in rich, creative play over which they have control. Teachers need to be more skilled than ever at facilitating social, emotional, intellectual, and physical development through play. However, the "pushing down" of academic instruction into early childhood settings amid calls for high-stakes testing and teacher accountability is one strong force leading to much less play. It is also diverting teacher education programs away from play-based teacher training and more toward how to teach basic skills as early as possible.

The following are some potential solutions for making sure children growing up today are able to engage in the kind of creative play that leads to optimal social, emotional, and academic learning.

Help early childhood educators become skilled at understanding the connections between media and play as well as skilled facilitators of play. Teacher training programs can influence how teachers facilitate play by requiring the study of play, its role in development and learning, how media and technology influence it, and how to facilitate it in the media age. Teachers need help learning how to create structures, routines, and environments for children that are conducive to high-quality play, within the current academic push-down environment. They need to know how to provide challenges that help children get engaged in problem finding and problem solving in their play rather than imitation of content they have seen on screens.

Teachers also need to be able to help children learn to use open-ended play materials such as blocks and play food and vehicles in play of their

own creation. Finally, it is very important to be able to help children work with the content from media they bring to their play, including about violent and sexualized behavior, which can influence the lessons they learn as they play. Levin spells out extensive strategies for doing this in her books *The War Play Dilemma* and *So Sexy So Soon*.

Make sure early childhood educators understand the relationship between play and academic learning, and how to facilitate the connections between them. Teachers need help integrating the foundations of literacy into play. For instance, talking to children about their play helping to extend it in new ways based on the children's interests, and writing and illustrating stories with children about their play can all help children process their experiences. The better that teachers are able to articulate the role of play in helping establish the foundations for later learning, the better they will be at advocating for play in their classrooms over mandated direct instruction, as well as at explaining how and why screens can undermine play and learning.

Help parents understand the impact of technology on their children's play, why this is a problem, and what they can do about it. It is extremely hard for even the most conscientious parents to fully protect their children from media's onslaught on their children's lives and influence on their play. Educators can respectfully help parents better understand the current situation—what "real" play is, suggestions they can try at home to limit media and promote play, and information on interests their children develop at school that might lead to less media and more creative play at home. Educators can suggest simple toys and household objects that can contribute to quality play at home. Helping parents with these issues requires ongoing attention. The organization Teachers Resisting Unhealthy Children's Entertainment (TRUCE) offers materials and support to share with families.

Encourage more research on changing play. Research has not kept up with the rapid changes in media, play, or the relationships between them. It is vital to learn more specifics about how play is

changing and how these changes are affecting various aspects of children's development and learning. And we also need to learn more about how to effectively manage media in children's lives and to facilitate play in today's environment.

Diane E. Levin

See also Commercialism; Creativity; Nature and Young Children; Play, Definition of; Play, Nature of; Play and Early Childhood Education; Technology and Play

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MEN IN EARLY CHILDHOOD EDUCATION

According to the U.S. Bureau of Labor Statistics, as of 2014, 2.8% of preschool teachers in the United States were men, and 19.1% of elementary and middle school teachers in the United States are men. The United Nations Educational, Scientific and Cultural Organization (UNESCO) reports similar gender discrepancies in every developed country. There are three overall reasons to increase the number of men working in early childhood programs: (1) young children, both boys and girls, need and deserve positive interactions with men in their early childhood programs; (2) men who are gifted in working with young children and who would like to make this a career choice should not face barriers in doing so; and (3) increasing the number of men in early childhood programs could encourage more fathers and other male volunteers to become involved in early childhood programs.

All Young Children Need to Interact With Men

On the whole, men and women interact differently with infants and young children. Men tend to be more physical, entertaining, and playful, while women tend to be more nurturing, soothing,

and conversational. It's also generally the case that when young children want to be comforted, they seek out a female caregiver, and when they want to be stimulated and entertained, they seek out a male caregiver. Further, both boys and girls need to be around male and female role models as they grow and develop into healthy men and women.

Women provide young children with a vast array of positive experiences. However, studies have shown that in the classroom most women prefer to engage in art, literacy, and dramatic play activities, while men seem more comfortable with floor activities, movement, rough-and-tumble play, construction challenges, and often more messy environments. These are generalizations, but when the majority of teachers of young children are of one gender, generalizations prevail.

Eliminating Barriers to Men Becoming Teachers

Since the 1960s, women have made gains in choosing professions and occupations. More women are selecting majors in engineering and other hard sciences in college; women are gaining more and higher political positions. Women are, if not breaking the glass ceiling, at least cracking it.

Now is the time to challenge limits to male career choices based on gender stereotypes. In a free society, discrimination of any kind, be it gender, race, ethnicity, income, age, and so on, is unacceptable. And, in a free, democratic, and equitable society, men should be allowed and even encouraged to work with young children.

There are many barriers to increasing the number of men in early childhood programs and elementary schools. These include the following:

- Resistance from some families who believe the societal view that men should not care for or teach young children. This is especially true of some new immigrant families whose culture forbids young girls from being around unrelated men.
- Resistance from many early childhood directors and elementary school principals because they assume parents don't want men in their children's programs.

- A belief that teaching—especially of young children—does not pay enough for male “heads of households.” Yet many single women raising children work as early childhood teachers, despite the low wages that prevail in the field.
- A belief by many in a decision-making capacity that the only reason a man would want to teach young children is to have access to them as potential sexual abuse victims, and thus hiring men opens the program up to unacceptable legal risks.
- A belief by some female teachers that men do not belong in the field, and that the field should remain one of the few occupations that women control.
- A historical view in all societies that women are naturally more capable and able to care for and educate young children.
- Pressure applied to men in the field from other men who do not view caring for and teaching young children as a legitimate occupation for real men, resulting in a lack of support and camaraderie for the few men who do venture into the field.
- A social justice view that presents justice as a struggle of those with power and those without power, and therefore a conflict between men and women. Those who subscribe to this view may not see bringing more men into the field as a priority, because they are focused on raising the status of women.

The solutions to the lack of men in the early childhood field are complex and difficult. Ultimately they require both a societal shift and a radical change within the field itself.

Increasing Male Involvement in Early Childhood Programs

Men tend to be more comfortable around other men; they also enjoy engaging in projects that use their skills and tap into their interests. Projects that are designed to take advantage of these realities can help to increase the involvement of men in early childhood programs and increase their interaction with young children. In one early childhood program, male volunteers designed and built a challenging playground. They enthusiastically

joined in to help with these projects, from scouring the neighborhood for equipment and materials to digging holes for trees and showing off their considerable carpentry skills. Other projects that have involved men include designing and building an elaborate loft and designing and constructing a simple, wooden puppet stage for each of the classrooms in an early childhood program. In another program, introducing woodworking benches and equipment increased the number of male volunteers in the classrooms. While women can and do lead these kinds of projects, men are more likely to generate projects and activities that other men enjoy and in which men will participate. In still another program, fathers, grandfathers, uncles, and boyfriends took over the cooking for an outdoor picnic for all the program’s families.

Conclusion

There is a dearth of male teachers in early education. There are three overall reasons to increase the number of men in early childhood programs: (1) so that both boys and girls can benefit from interacting with men, and observing men and women engaged in healthy interactions; (2) to enable men who wish to care for and educate young children to be able to do so, and (3) to increase the amount of male involvement in early childhood programs. However, a variety of barriers inhibit the ability to increase the number of men in the early childhood field. To address this dilemma, a sincere commitment is needed, both by everyone within the early childhood field and by society in general.

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See also Diversity in Early Education; Equity and Equality in Early Childhood; Fathers; Gender Diversity; Rough and Tumble Play

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MENTAL HEALTH ASSESSMENTS

Mental health assessments refers to formal assessments used to screen, diagnose, and identify effective interventions for young children at risk or identified with mental health concerns. This entry (a) defines diagnostic criteria used to inform mental health service providers, (b) describes common screening tools used to identify young children at risk for mental health concerns, (c) presents common diagnostic instruments used to inform psychiatric diagnoses of mental health disorders, and (d) discusses assessments to be used when considering intervention approaches for a young child at risk or identified with a mental health concern.

Overview

Identifying young children considered at risk for mental and behavioral health concerns has gained substantial empirical attention over the last three decades. Most research has focused on the efficacy of screening tools and the effectiveness of preventative treatments (e.g., early intervention services) in facilitating healthy social, emotional, and behavioral development for young children. A major challenge in identifying mental health concerns in young children is making the decision to

diagnose a child with a categorical psychiatric disorder or simply identify behaviors of concern that may be a result of a temporary disruption in otherwise typical development.

Both diagnosing and refraining from assigning an official diagnosis while the child develops have advantages and disadvantages. Children who receive a diagnosis are eligible to receive treatments that are prescribed and provided by professionals and, often, billed to insurance or provided at no cost to the family (e.g., early childhood special education). Unfortunately, when a label has been assigned to a child, it can be very stigmatizing.

When parents and/or professionals refrain from assigning a diagnosis, it can become challenging to get the child the intervention services necessary to assist with the behaviors or symptoms that warranted a referral to the professional. The undiagnosed child who displays some mental or behavioral health symptomology and is provided with appropriate interventions and supports may cease to exhibit symptoms within clinically significant diagnostic ranges; the child then no longer warrants a diagnosis and subsequent treatment.

Finally, children are amazingly resilient and many are often very receptive to preventative and early intervention services. However, some children experience trauma, environmental instability, or neurodevelopmental abnormalities that result in mental health concerns that impair their functioning. This entry addresses the journey of the stages of assessment for children who experience “serious deviations from expected cognitive, social, and emotional development” (U.S. Department of Health and Human Services, 1999, p. 123).

Diagnostic Criteria

The fields of psychiatry and psychology have a rich history in debating the nosology and subsequent identification of diagnostic criteria necessary for a person to be diagnosed with a psychiatric disorder. When considering diagnostic criteria and instruments for identifying the young child with possible mental health concerns, both fields recognize the infancy of their respective efforts.

Some of the major debates when considering how to identify the young and developing child include (a) deciphering the difference between categorical diagnostic markers and normalcy, (b) agreeing about how psychiatric disorders are expressed in the developing child, and (c) confirming the utility of current adult diagnostic approaches with the developing child. Developmental psychopathologists have played a major role in assisting the fields in negotiating the relationships between typical behaviors and atypical behaviors in the developing child, as well as providing guidance in adopting a dimensional approach to diagnoses when the categorical approach has failed (i.e., the child displays behavioral inhibitions with persons other than caregivers rather than the child has generalized anxiety disorder).

Psychologists, psychiatrists, and other medical professionals trained in the United States utilize the *Diagnostic and Statistical Manual of Mental Disorders* (DSM) to diagnose and classify mental disorders. After approximately 15 years of substantial debate and revisions, the DSM was updated to its fifth edition (DSM-5). The DSM-5 has been reorganized to highlight age-related aspects of disorders in each of the diagnostic criteria. This new system of organization acknowledges the life span manifestation of symptomology for each disorder instead of designating childhood mental disorders as categorically different. Moreover, the revised system considers the developmental continuum of both the human life span and specific psychopathology. Many professionals refer to the *Diagnostic Classification of Mental Health and Developmental Disorders of Infancy and Early Childhood-Revised* (DC: 0–3R) as a complement to the DSM-5. The DC: 0–3R considers mental disorders within the context of development. Unfortunately, there is little empirical evidence to support the DC: 0–3R.

The Centers for Disease Control and Prevention (CDC) has recently begun monitoring mental disorders among children (i.e., 1994–2011 data published in 2013). Early findings suggest that the most prevalent disorders diagnosed include, in order from most prevalent to least prevalent,

(a) attention-deficit/hyperactivity disorder (6.8%), (b) behavioral or conduct problems (3.5%), (c) anxiety (3%), (d) depression (2.1%), and (e) autism spectrum disorders (1.1%). It should be noted that the aforementioned statistics were based on a population of children ages 3 to 17 years old. The CDC has called for more attention to be given to diagnosis and surveillance of pre-school-age children. Appropriately screening, identifying, and treating mental disorders of young children are emergent fields still in their infancy.

Common Mental Health Screening Tools

Early childhood students with mental health concerns who do not receive effective services and interventions are frequently troubled in their adulthood. These individuals may exhibit unsuccessful, disabling conditions as adults. There is a great need for early screening and identification for children who are at risk or have mental health concerns through assessment instruments, so these students receive the necessary interventions and supports for a more successful future. In addition, federal legislation states that schools are required to provide a free, appropriate public education to early childhood students who are birth to 5 years of age with disabilities. Each school district is required to conduct a multidisciplinary assessment and develop an individualized family service plan (IFSP) for early childhood students with disabilities, including those who are at risk or with mental health concerns.

A vital part of assessing early childhood students who are at risk of mental health concerns is screening. Universal screening for all students is highly recommended. *Universal screening* is defined as systematic screening of all children within a given class, grade or set of grades, school, or district on social-emotional indicators that the school professionals and community have agreed are important. More specifically, mental health screening is defined as the early identification of children at risk for possible mental health disorders that may interfere with expected growth, learning, or development that warrant further assessment, diagnosis, or

evaluation. Various screening tools are used for identifying early childhood students who are at risk or have mental health concerns.

There are numerous screening tools that analyze mental health concerns in early childhood students. The educational professionals have the task of finding the most appropriate instruments for meeting the mental health screening needs of the student. Screening instruments can be completed by parents, educators, mental health professionals, physicians, and students, if applicable. Table 1 shows some potential mental health screening instruments used by educators, parents, and medical professionals.

The implementation of positive behavior interventions and supports (PBIS) has been associated with a decrease in challenging behaviors related to mental health issues. PBIS is an empirically validated framework for supporting student behavior in educational settings. It is a proactive, preventative, and data-driven practice. There are three tiers associated with PBIS: primary, secondary, and tertiary.

Universal screening, or the primary tier of PBIS, helps identify the students who may need more individualized practices related to their mental health concerns in their educational setting. Proactive behavior management practices are promoted including the use of a clear delineation of

positively stated behavioral expectations, a ratio of six to eight positives to one negative adult-student interaction, positive reinforcement, and pre-correction and reminders regarding undesired behaviors. Educators may also facilitate home-school connections related to mental health concerns and progress, daily behavioral monitoring, functional assessment-based behavior support planning, and comprehensive student-centered planning.

Diagnostic Testing

Most children who are universally screened for mental health concerns will show no areas of concern. However, children who demonstrate multiple areas of concern within the screening process or who are referred to professionals by their parents will participate in further diagnostic testing. Diagnostic testing often employs multimethod assessment to obtain information. *Multimethod assessment* simply refers to the use of multiple methods of evaluation and information gathering for the purposes of identifying a child's level of functioning. Interviews, checklists, behavioral observations, and standardized testing are common assessment techniques used in multimethod assessment for the purposes of diagnosing mental disorders within the DSM-5.

Table 1 Common Mental Health Screening Instruments

<i>Name</i>	<i>Explanation</i>	<i>Ages</i>
Ages & Stages Questionnaires: Social-Emotional (ASQ-SE)	Parent-completed tool with focus on child's social and emotional development	0 to 5 years
Behavioral and Emotional Screening System (BESS)	Universal screening tool identifying behavioral and emotional strengths and weaknesses	3 to 18 years
Brief Infant Toddler Social Emotional Assessment (BIT SEA)	Brief, comprehensive screening instrument to evaluate social and emotional behavior	1 to 3 years
Pediatric Symptom Checklist	Brief screening questionnaire used to identify psychosocial problems in children	4 to 18 years
Temperament and Atypical Behavior Scale (TABs)	Screening or assessment tool used to identify concerns in attachment, sensitivity/activity, reactivity, and regulation	11 months to 5 years

As developmental neuroscientists learn more about the developing brain, neuropsychological assessments are becoming a more frequently employed diagnostic tool for children with mental health concerns. *Neuropsychological assessments* are evaluations that seek to identify brain-related deficits and lesions. Some areas assessed with neuropsychological assessments include (a) perceptual and sensory functioning, (b) motor function, (c) verbal and nonverbal functions, and (d) attention and processing ability. A pediatric neurologist may elect to collect additional information using neuroimaging techniques (e.g., magnetic resonance imaging, computerized tomography), but not use the results to make conclusive diagnoses at the time.

A *diagnostic assessment* is a written evaluation conducted by a mental health professional to determine whether a child or youth has a mental health disorder. The mental health professional will often interview the child, family, and school to gather information about the early childhood student's life. After the completion of the battery of assessments,

the mental health professional determines the child's mental health diagnosis, if any. This diagnosis often drives the treatment goals, plans, and services needed for the child. Table 2 delineates potential mental health diagnostic assessments that may be utilized for early childhood students.

Assessments to Inform Intervention Programming

Educators, interventionists, and parents utilize assessments to assist in the development and monitoring of behavioral and mental health programming. The most common assessments used to inform programming typically assess social, emotional, and behavioral development.

Social Skills Assessments

Social skill deficits are a common concern for children identified with behavioral and mental health concerns. Specific areas of difficulty include (a) emotion regulation, (b) self-determination,

Table 2 Mental Health Diagnostic Assessments

<i>Name</i>	<i>Explanation</i>
Behavior Assessment System for Children (BASC)	Assesses adaptive and problem behaviors in children ages 2 to 21 years old
Child Behavior Checklist/1½–5 (CBCL/1½–5)	Widely used, empirically based multi-axial scale completed by parents and caregivers to identify disorders within DSM-5 for children ages 1½–5 years old
Child Health & Development Interactive System	Assesses broadly for mental health symptoms and problems in functioning in children ages birth to 21 years old
Childhood Severity Psychiatric Illness	Assesses severity by eliciting risk factors, emotional symptoms, and functioning problems in children ages 3 to 21 years old
Children's Depression Inventory	Assesses depression (and possibly anxiety and some externalizing problems) in children ages 7 to 17 years old
Conduct Disorder Scale	Rates symptoms in domain of disruptive behavior in children ages 5 to 22 years old
Conners' Ratings Scales	Widely used assessment for assessing inattention and hyperactivity in children ages 6 to 17 years old
Spence Children's Anxiety Scale	Assesses for anxiety in children ages 2½ to 6½ years old

and (c) navigating interpersonal relationships. Educators, parents, and related service providers can utilize social skills assessments to identify specific areas of concern and design social skills programming. The most common form of social skills assessments come in the form of rating scales. Typically, stakeholders in a child's life will respond to a series of questions about the child's social skill performance in several different areas.

Many rating scales are based on the reporter's recollection of previously observed behaviors. However, some scales (e.g., Individual Social Behavior Scale; Play Observation Scale; Assessment, Evaluation, and Programming System [AEPS] Test; Transdisciplinary Play-Based Assessment) include guided direct observations as a part of the assessment. Guided direct observations often include specific behavioral markers for the assessor to look for and document if and how frequently the specific behavioral markers occurred. Other direct measures of prosocial or maladaptive social interactions are often counted by the frequency or duration of their occurrence. Directly observing a child interacting with others in his or her natural environment is the most ideal form of assessing a child's social and interpersonal skills. Finally, data from all stakeholders and direct measures or scales are triangulated and specific social skills are targeted for intervention programming.

Functional Behavior Assessments

Educators are required by federal legislation to implement interventions for students with challenging behaviors (e.g., PBIS), which usually encompasses students who are at risk or identified with mental health concerns. When a student has demonstrated difficulty performing expected behaviors even with guidance (i.e., tier two and/or tier three level PBIS) and/or his or her behaviors impede his or her learning or the learning of others, the school district must complete a functional behavioral assessment (FBA). *FBA* is defined as an assessment process that seeks to explain why (i.e., function) a student displays problematic behaviors in the educational environment. More specifically, the FBA seeks to identify what the student gains or

avoids in his or her environment when he or she uses the problematic behavior.

In order to identify the function of the student's problematic behavior, a battery of indirect and descriptive assessment data is collected. *Indirect assessments* can be defined as any information about the student, behavior, and environment that is not directly observed by the person collecting the data. Common examples of indirect assessments used in FBA include (a) office discipline referrals, (b) interviews with teachers and family members, (c) rating scales, and (d) checklists. Information collected from indirect assessments assists in defining the target behavior (i.e., problematic behavior) and comparing information from multiple sources.

Descriptive assessments are direct observations of problematic behavior. More specifically, when completing a descriptive assessment, the observer will document exactly what happened in the environment prior to the problematic behavior (i.e., antecedent events) and exactly what happened in the environment following the problematic behavior (i.e., consequent events). Anecdotal observation (i.e., ABC recording) and scatterplot analysis are the most commonly used descriptive assessments. The purposes of descriptive assessments are to (a) document the level of the problem behavior, (b) identify setting events, and (c) describe common antecedents and consequences surrounding the problem behavior.

Educators use data from the FBA to develop behavior intervention plans (BIPs). BIPs play an integral role in promoting success for students with mental health issues. BIPs may (a) eliminate the student's problem behavior; (b) teach more appropriate, independent, functional behaviors; and (c) arrange a positive behavior-based environment, which employs appropriate consequences. Table 3 details the steps involved in going from the FBA to the BIP.

Identifying a young child with a mental disorder is a challenging process with grave implications. However, providing early intervention treatment for any mental or behavioral health concern is highly recommended and may require a child to be formally diagnosed. Professionals are encouraged to work closely with families to determine the best

Table 3 Steps From Functional Behavior Assessment to Behavior Intervention Plan

<i>Step</i>	<i>Explanation</i>	<i>Example</i>
1	Through detailed observations and screenings, operationally define the behavior or mental health issue impeding student's learning (problematic behavior).	Jana complains of experiencing a physical ailment during independent seatwork activities.
2	Determine the events that occur before, during, and after the student's problematic behavior.	When the class is given an independent seatwork assignment, Jana raises her hand and tells the teacher of a physical discomfort she is experiencing. Mrs. Bullock sends Jana to the nurse's office.
3	Systematically manipulate the antecedent and consequent events to verify.	First, present Jana with seatwork with a partner and see if she complains of a physical ailment. Next, present Jana with independent seatwork and if she complains of a physical ailment, tell her she is fine and she is to complete her work.
4	Formulate hypotheses about why the student engages in this problematic behavior (i.e., the function of the behavior).	When Jana is presented with independent seatwork, she complains of experiencing a physical ailment in order to avoid independent seatwork.
5	Incorporate the FBA information into the student's behavior intervention plan. Create behavioral goals and objectives that will teach replacement behaviors that serve the same function. Identify supports that will assist Jana in successfully performing the desired behaviors.	Behavioral objective: When Jana is presented with independent seatwork, she will request help from the teacher or a peer in order to complete up to 80% of the daily independent seatwork activities assigned and observed over five consecutive days. The teacher will assign peer tutors for all of the students each week so Jana knows who to approach for assistance.

approach for identifying and determining treatment for each individual child with mental or behavioral health concerns.

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See also Cultural Competence; Early Childhood Special Education; Family Partnerships; Family Structure Diversity in the Early Childhood Program; Mental Health Services

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Response to Intervention in Early Childhood Resource
Page: <http://nectac.org/topics/RTI/RTI.asp>
National Institute of Mental Health: <http://www.nimh.nih.gov/index.shtml>
Positive Behavior Interventions and Supports, Early
Childhood: <https://www.pbis.org/community/early-childhood>
Substance Abuse and Mental Health Services
Administration: <http://www.samhsa.gov/>
U.S. Department of Education, IDEA 2004: Building the
Legacy: <http://idea.ed.gov/part-c/search/new>
U.S. Department of Education, Office of Special
Education Programs, Ideas That Work: <http://www.osepideasthatwork.org/toolkit/index.asp>
ZERO TO THREE, Early Childhood Mental Health:
<http://www.zerotothree.org/child-development/early-childhood-mental-health/>

MENTAL HEALTH SERVICES

Mental health services refers to the continuum of behavioral health interventions and treatment options for young children with mental and behavioral health concerns. This entry defines and describes the continuum of mental health service options and common treatment approaches to mental health intervention for young children.

Continuum of Mental Health Services

Services for young children identified with mental disorders are limited compared to services for their otherwise disabled same-aged peers (e.g., speech impaired, developmentally delayed). However, when a child has been identified with a mental disorder, a continuum of service-delivery options is considered. Specifically, a team of stakeholders (i.e., professionals and caregivers) consider where, how much, and what types of mental

health services are required for the child to experience therapeutic success. Service-delivery options are considered along a continuum from least restrictive/least intensive to most restrictive/most intensive. It should be noted that the ultimate goal of any child's programming or support team should be to transition a child back to the least restrictive setting that the child is able to successfully navigate. The ultimate goal should be preparing the child to successfully participate and contribute in society.

Home-Based Mental Health Services

The least restrictive/least intensive setting for treatment is outpatient programs. Outpatient programs may be delivered at a professional's office, in a community center, or in the home. For most young children, they will typically first receive community- and/or home-based mental health services. Home-based mental health services are when professionals deliver mental health services in the child's home. One of the major benefits of home-based mental health services for a young child is the professional is able to work with the child in his or her natural environment and everyday routines. An additional benefit of delivering services in the home is the relationship that can be built between the professional and the family. The professional will work closely with the family to (a) identify areas of concern, (b) review how the child is progressing, and (c) teach the family how to assist in working on the treatment goals while the professional is not in the home (e.g., setting up and maintaining a bedtime routine for the child, ignoring problem behavior, guiding a child through a problem-solving strategy).

Children receiving outpatient treatment often receive wraparound services. The wraparound process is a system-level intervention that aims to integrate existing services around the child with mental health concerns and his or her family. Major problems affecting any and all family members are addressed in a comprehensive manner. Service planning is accomplished through "wrapping" individual services and natural supports around the child and his or her family.

Community-Based Mental Health Services

Community-based mental health services may include (a) early childhood mental health consultation, (b) social service providers, and (c) pastoral or church affiliates. It is important for these partners to collaborate with the families and schools while providing services to the young child. In 2014, the Substance Abuse and Mental Health Services Administration and the National Institute of Mental Health announced plans to collaborate with community agencies to raise community awareness and involvement in early intervention in children with mental health concerns. National agencies are providing technical assistance and resources for participating community partners.

School-Based Mental Health Services

Under the Individuals with Disabilities Education Act, schools are required to provide a free and appropriate public education to young children with disabilities. Furthermore, each school district is required to conduct a multidisciplinary assessment provided by a school psychologist or other mental health professional. On completion of a full individual evaluation (i.e., multiple assessments), the multidisciplinary team will design an individualized family service plan (IFSP; specific for families with children ages 0 to 3 with an identified disability) or individualized education program (IEP; specific for students ages 3 to 22).

IFSPs and IEPs are individually designed education plans created by the multidisciplinary team (e.g., educators, community partners, families). Data collected from multiple assessments addressing all domains of functioning are used to determine goals, supports, and services that will promote systematic growth and access to the least restrictive environment. For young children with mental health concerns, many of the goals will focus on emotion regulation and coping strategies, as well as developing adaptive behaviors and social skills.

In many cases, young children with mental health concerns require psychological services to meet mastery criteria on annual goals and/or to access education in the least restrictive environment. When

specialized and/or supplementary services are required, the specific services as well as the amount of time a child is to receive those services (e.g., 30 minutes of direct counseling services per week) are specified in the IFSP or IEP as a related service. Psychological services provided in the school may include (a) counseling services, (b) crisis intervention services, (c) social work services, and (d) therapeutic behavior services. The related service providers work closely with the school, family, and community to promote a positive outcome for young children who may be at risk or with mental health concerns.

Inpatient or Residential Psychiatric Care

Unfortunately, when children are in crises and their caregivers are unable to provide the amount or intensity of supports or supervision necessary for the child's well-being, the child may be admitted to an inpatient psychiatric care facility. It is important to understand that placement in a residential psychiatric care facility is the most intensive and restrictive setting for service delivery. Children referred to residential facilities are typically considered to be "in crisis" and are only expected to remain in full-time, intensive care for a short period of time. Residential psychiatric facilities are the preferred setting for stabilizing children who have attempted suicide, are self-injurious, or have demonstrated the intent to harm people around them. When a child is in a residential placement, it is recommended that professionals and the child's family meet on a frequent basis (e.g., daily or weekly) to review the child's progress and assess the child's ability to be adequately treated in a less restrictive setting (i.e., group home, foster care, or back home with the family).

Common Approaches to Treatment

Approaches to treatment originate in psychological theories: (a) psychodynamic, (b) behavioral, (c) cognitive-behavioral, (d) family systems, and (e) neurobiological. Identifying the appropriate treatment approach for an individual child is best determined by stakeholders involved in the child's

treatment programming. Many treatment plans combine more than one treatment approach for an individual child.

Play Therapy

Play therapy originated in psychodynamic theory. When a child participates in play therapy, he or she is presented with toys and activities and the therapist observes how the child interacts or plays. The therapist may even interact with the child, but he or she is careful not to make any leading or judgmental statements during the interaction (i.e., child-led play). Psychodynamic theory asserts that a child will act out his or her psychological issues when engaging in play. Unfortunately, play therapy has little to no empirical support for its effectiveness.

Applied Behavior Analysis

Applied behavior analysis (ABA) is a well-established approach that is based on behaviorist principles. Behaviorism asserts that an interventionist can only concern himself or herself with a client's behaviors that can be observed and measured in the environment. Moreover, B. F. Skinner introduced the phenomena that behaviors have direct relationships with both the antecedent events (i.e., what happens just before the behavior occurs) and the consequent events (what happens just after the behavior occurs). The therapist will attempt to ascertain a functional relationship between the maladaptive or problem behaviors and the events surrounding them. A functional relationship explains why a person engages in a behavior. It asks the question, "What does the person get or avoid when he or she exhibits this behavior?" Therefore, when a child is receiving ABA services, the therapist will carefully control for antecedent and consequent events that surround a child's maladaptive behavior. More importantly, the ABA therapist will teach more adaptive or desirable behaviors that will allow the child to get his or her wants and needs met.

Cognitive Behavioral Therapy

Cognitive behavioral therapies (CBT) borrow from the major tenets of both cognitive and

behavioral theory. The CBT approach uses the behavioral approach in that it considers the events that surround behaviors, but it also addresses the private thoughts (i.e., cognitions) that accompany the maladaptive behaviors. CBT assumes thoughts and behaviors are related. When using CBT, the therapist must know about and consider the private thoughts of the client when in a therapy session. There are several different types of CBT: (a) cognitive modeling, (b) self-instruction, (c) cognitive restructuring, and (d) cognitive problem solving. All of the aforementioned CBT approaches work to train the client to (a) become more aware of his or her thoughts, (b) consider how those thoughts will affect his or her behaviors, and (b) make more informed behavioral choices.

Family Systems Therapies

Originating in family systems theory, family systems therapies function with the assumption that a child's emotional and behavioral concerns are symptomatic of issues that exist within the larger family system. Therefore, therapists using this approach often will not provide therapy to the child unless the entire family commits to participating in the therapeutic process. Once all family members have committed to the process, the therapist often works with (a) each member individually, (b) different dyads within the family, and (c) the entire family as a whole group. Family systems therapists often employ several different intervention approaches when servicing the family. The ultimate goal in family systems therapy is to assist the family in identifying unhealthy patterns of communication and behavior that exacerbate a child's emotional or behavioral problems, and teach the family how to engage in more positive and healthy activities and interactions.

Psychopharmacological Therapy

Psychopharmacological therapies are the newest approach to treating mental disorders in young children and are based in neurobiological theories. On its website, the National Institute of Mental Health discusses psychopharmacological therapeutic

options, which include behavioral/psychosocial intervention, medication, or a combination of both. Although medication does not cure mental disorders, evidence is beginning to emerge that demonstrates promise in decreasing the symptomology that may impair a child's functioning. Due to the lack of evidence and the possible developmental consequences, many physicians have grave concerns about prescribing medication to young children (i.e., under the age of 10). Many medical professionals recommend families consider other approaches prior to psychopharmacological interventions. It is important to understand that medication may be successful for one child and may not work for another. Finally, children taking any kind of medication for mental health concerns should be monitored frequently by a psychiatrist.

Conclusion

Designing and delivering effective mental health services to young children is an emerging area that is gaining national attention and funding. Children from minority and lower socioeconomic status families often go unidentified and untreated for mental health concerns. Children and families who have an identified need for mental health services are often at the mercy of the professionals they consult. Ethically, professionals must clearly communicate their expertise with families, as well as the rights of the child and family while in the professional's care. Treatment programs should be individualized and sensitive to a family's culture and values.

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See also Cultural Competence; Early Childhood Special Education; Family Partnerships; Family Structure Diversity in the Early Childhood Program; Family-Centered Practices

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Center for Early Childhood Mental Health Consultation, Our Vision for Mental Health in Head Start: <http://ecmhc.org/principles.html>
Center for Parent Information and Resources, Parent Participation in Early Intervention: <http://www.parentcenterhub.org/repository/parent-participation-ei/>
My Child: Project Launch, Partnership for Early Childhood Mental Health: <http://www.ecmhmmatters.org/Pages/ECMHMMatters.aspx>
National Institute of Mental Health: <http://www.nimh.nih.gov/index.shtml>
National Wraparound Initiative, Wraparound Basics: <http://www.nwi.pdx.edu/wraparoundbasics.shtml>
Positive Behavior Interventions and Supports, Early Childhood PBIS: <https://www.pbis.org/community/early-childhood>
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ZERO TO THREE, Early Childhood Mental Health: <http://www.zerotothree.org/child-development/early-childhood-mental-health/>

MENTORS

One possible origin of the concept of *mentor* is the *Odyssey*, where it is discussed in terms of the role an older person might play in relation to a protégé. However, the relationship between mentors and protégés can be understood differently across circumstances and contexts. Correspondingly, mentoring roles have been conceptualized differently in different professions and types of organizations. Nevertheless, with few exceptions, in the field of education, a mentor is typically understood to refer to an experienced teacher in the same subject area who helps new teachers adjust to the teaching

environment and supports them to succeed in the profession, especially during the early years of their career.

Demands on Mentoring New Teachers

Major changes in teacher education include high demands of quality education and professional development. The significance of professional mentoring for the sake of quality education has been highlighted in connection to highly qualified teachers as there has been increasing awareness that the quality of early childhood education programs is related to teachers' qualifications and professional dispositions, such as teaching efficacy, passion, motivations, interpersonal skills, and so forth.

In order to remedy long-lasting problems in the field of early childhood education such as recruitment, attrition, and retention, various mentoring and induction programs have been developed across the states. Within the field of early childhood education, a mentor's responsibilities and mentoring programs differ by school district and state.

There are discrete concepts, definitions, and functions of mentors and mentoring. There are ambiguities and complexities in defining mentoring and the role of mentoring in interpersonal growth and professional development among mentors and protégés alike.

Nature (or Definition) of Mentoring

Despite the lack of consensus in defining mentoring, there are commonalities in understanding mentoring. First, mentoring reflects a unique interpersonal relationship between individuals. Second, mentoring relates to the acquisition of knowledge and skills to be gained or strengthened in an early childhood education environment where protégés are situated. Third, although the mentoring process seems to be linear, mentoring is a dynamic and reciprocal process, producing new roles and expectations between mentors and protégés. In other words, mentoring is transformative in its impacts on relationships and expectations.

The variations in defining mentoring often cause discrepancies in perceptions and expectations

among mentors and protégés. In the school system, mentoring is perceived as a means of teacher development through *one-on-one interpersonal support* and *the evaluation of professional growth and dispositions*.

Mentoring involves emotional support provided by mentors to new teachers, enabling them to succeed in the teaching profession. The trusting interpersonal relationship provides new teachers a way to develop a sense of community in the school setting and allows for them to facilitate use of available resources for instruction as well as to learn school policies within a relatively short period of time.

Mentoring is more than "a peer relationship" between a more experienced teacher and a new teacher within the same area of teaching. Mentoring should produce mutual benefits for both mentors and new teachers through empowering each to enhance professional skills and dispositions required for teaching diverse students and meeting all stakeholders' needs. In order for this function to succeed, mentors need continuing professional development and a desire to devote themselves to self-development. Flexible time and reduced workload should be ensured for the mentor development program so that mentors can be fully equipped with professional skills and dispositions to perform desired functions of mentoring beyond a peer relationship. Mentoring programs are intended to function differently from induction programs and other types of short pragmatic adaptation programs.

Mentoring is more than a supervising process to support and evaluate a new teacher. Power imbalance in mentoring relationships may cause problems that lead to deterioration of new teachers' professional experiences. Mentoring protégés are distinguished by the function of formal evaluation or assistance from a director, supporter, supervisor, guider, advisor, proctor, and evaluator.

Mentoring Today in Early Childhood Education

One critical role of mentors is to help new teachers build organizational and political knowledge

to expand their insights beyond their teaching venue, the classroom. As educational needs change dynamically, contemporary mentor roles need to be reconceptualized.

Mentors and new teachers alike face challenges in meeting diverse children's needs, collaborating with diverse colleagues, and making do with scant instructional resources to meet all stakeholders' expectations and needs. Baron (2006) demonstrated that a mentor should act as "an agent of change and induction as the lever" who impacts the system of the school by his or her own ongoing/continuing professional development and by empowering novice teachers to promote equitable practices. In order to make this possible, critical reflection skills are required in order for a mentor to produce a secure and comfortable basis for professional dialogue, enabling a protégé to be culturally sensitive and responsive to changes in expectations and needs.

Conclusion

Mentoring ultimately helps to improve school effectiveness by preventing behavior problems, reducing dropout rates, enhancing school performance, promoting self-identify, and supporting future career development. However, the practical application of mentoring remains unclear and needs to be reconceptualized.

Due to the reality shock caused by the gap between theory and practice experienced by new teachers, early childhood teachers show a low level of job satisfaction and a high turnover rate. A well-structured mentoring program will help to solve the teacher shortage in early childhood education by supporting and empowering new teachers to remain in the teaching profession. Time-specific and multilevel supportive efforts will ensure successful mentoring for both mentors and protégés and ultimately ensure high-quality teaching with positive impacts on children's learning, and meeting current educational standards.

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See also Coaching; Teacher Beliefs; Teacher Performance Assessment; Workforce Development

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MIGRANT FAMILIES

Migrant families represent one of the most industrious yet undereducated populations in the United States, making the education of children and families of migrant workers a critical issue. Migrant workers in the United States consist primarily of seasonal workers in fields such as agriculture, fishing, forestry, and plant nurseries. Frequently moving from one job to another as the seasons change and work becomes available, these families often work long hours, under dangerous conditions, and receive very little pay, often making well below the poverty line. According to the National Center for Farmworker Health, children of migrant workers face some of the highest rates of poverty and malnutrition, have the least access to health care, and are one of the most economically disadvantaged groups of children in this country.

Children of migrant workers frequently work alongside their parents, often engaging in strenuous labor for long periods of time, which can have serious negative consequences for both their health and their education. Compared to non-migrating

students, migrating students are more likely to miss or arrive late at school, sleep during class, study for fewer hours, sleep less, and suffer from minor illnesses more frequently. These factors, combined with high rates of mobility and cultural and social isolation, further increase these children's risk for academic failure. For English language learners (ELLs), these risks are often magnified, as they must face additional challenges associated with language barriers. Research on ELL students in the United States has consistently shown that these children are at an increased risk for poor academic outcomes, highlighting the importance of strategies for ameliorating these risk factors. While the barriers to educational success for migrant children are high, particularly for ELL migrant students, research has shown that access to a well-integrated community support system, including access to high-quality early childhood education with support for ELL learners, can help attenuate these educational obstacles and promote positive outcomes for these children.

Because many migrant families speak languages other than English at home, effective bilingual and English as a second language (ESL) programs are a key factor in the academic success of migrant children and families. In a study of Spanish-speaking migrant families, ELL children scored lower than their peers from other backgrounds on all factors related to educational enrichment in the home, including access to books in the home and parental reading. In a qualitative study of rural migrant communities, researchers found that lack of access to bilingual materials, teachers' inability to communicate with parents (particularly with respect to a student's academic needs), and limited parental engagement exacerbated the separation between home and school, thus inhibiting children's academic success. Findings such as these have raised concerns about how to effectively support students who primarily speak a language other than English.

In an attempt to address this concern, Janet Elizabeth Pierce Clark (2011) qualitatively examined educational practices that fostered school and home connections for migrant ELL families and improved children's academic success. After

conducting extensive interviews with migrant parents of children attending "successful" schools (a school where more than 80% of children passed state-mandated criterion tests in reading and math), Clark discovered several themes. Specifically, warmly embracing the children's unique backgrounds, honoring and respecting the families' funds of knowledge (maintaining a strength-based view of migrant families rather than a deficit view), and providing a rigorous curriculum along with support for language learning were found to be salient for parental engagement and student success. Moreover, when teachers provided culturally responsive teaching (involving students in the co-construction of knowledge by immersing them in activities that have personal meaning for them), the result was "a more expansive and dynamic education for children" (p. 455).

The importance of ESL programs for positive academic outcomes has been substantiated in a number of studies of children from migrant families. Research has also shown that targeting at-risk ELL children early on may be a key factor in improving their literacy performance. In a recent longitudinal study of Spanish-English bilingual children from socioeconomically disadvantaged migrant families, Carla Wood Jackson and colleagues found that the ELL students' predicted standard score on an English receptive vocabulary test at kindergarten was nearly two standard deviations below the mean for monolingual peers. While significant growth in the ELL students' receptive vocabulary was observed between preschool and second grade, ELL students' average scores remained below the standard score mean for age-matched monolingual peers. However, initial Spanish receptive vocabulary was a significant predictor of growth in English receptive vocabulary, suggesting that children who show higher initial Spanish performance may have a better propensity for learning new words rapidly. Thus, the researchers suggested that initial language performance in a child's first language at school entry might be a useful predictor of which children may require more intensive explicit instructional support for English vocabulary growth.

The effectiveness of the Migrant Even Start programs has been documented in a number of studies. In a longitudinal study examining a rural Midwestern Migrant Even Start family literacy program, Lisa St. Clair and Barbara Jackson found that family participation in this project was relatively high, with families participating in over half of the offered sessions on average. By the end of first grade, children from families participating in the parent involvement training program scored significantly higher on language measures than the control group. Moreover, in a 6-year follow-up study, the researchers found that children in the treatment group scored significantly higher on statewide reading assessments than children in the control group, suggesting that equipping migrant families with the ability to nurture their children's language skills leads to positive and lasting language outcomes for their children.

As the number of migrant families in the United States continues to increase, the question for many in education is how best to enable students of all backgrounds and ethnicities to succeed academically. Migrant families face many unique and substantial challenges. Factors such as long work hours, high mobility, language barriers, and poor socioeconomics often inhibit these families from becoming engaged with their children's school, placing these children at an increased risk for poor academic outcomes. While many of these factors are beyond a school's control, there is much that can be done to improve migrant children's academic success. By respecting each family's unique culture, fostering parental involvement, and providing high-quality early childhood education with support for English language learners, positive student outcomes can be achieved and the condition of migrant families can be improved.

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See also Diversity in Early Childhood Education;
Immigrant Children; Immigrant Families and Early
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MILITARY CHILD DEVELOPMENT CENTERS

Almost 2 million children in the United States have one or both parents serving in the United

States Army, Navy, Air Force, Marine Corps, Coast Guard, Guard and Reserve, and Joint Services, and receive care in military facilities housing programs for young children (birth to 5), school-agers (5 to 12 years), and teens (13 to 18 years). Others may be cared for in quality family child care homes on or off installations or attend facilities off-post. About 37% of those children are age 5 and younger and often receive care in what has been referred to as the best child care system in the world: a U.S. military child development center. These 900 centers are overseen by the Military Child Development Program, operated by the U.S. Department of Defense. This entry examines the U.S. military child care system, and particularly the U.S. military child development centers that are operated worldwide.

U.S. Military Child Care System

The Department of Defense (DoD) realizes that caring for the children of U.S. military personnel is paramount in providing for service members' well-being and readiness to serve in the U.S. military. Whether families are present both stateside and abroad on military installations or service members serve in the absence of their families, quality care for their children is crucial. As of late, the U.S. military child care system has become widely regarded as a model to be followed by the rest of the nation.

Since 1989, the Military Child Care Act (MCCA) has become a catalyst for change in the nation's military child care system. High-quality services, standards of quality, frequent inspections, and state licensing and national accreditations have become common for military child development centers. Specialists provide training for care providers and assist in the implementation of developmentally appropriate curricula that mandate best practices in caring for young children. In addition, there are ongoing projects to partner with child care centers "outside the gate" of military installations in order to alleviate the shortage of quality child care openings and to enhance the success of a military family's quest for affordable and quality

child care. The demand for military child care far outnumbers the supply as more than 200,000 children receive daily care, but there are about 40,000 more military children waiting for care.

Standards of Quality and Best Practices in Military Child Development Centers

Child development centers for military children are defined as on-installation child care centers certified, inspected, and operated by the DoD and the specific military branch family services divisions. Each branch maintains its own standards of quality and services, but all are subject to the Department of Defense guidelines for military child care. Approximately 95% are National Association for the Education of Young Children (NAEYC) accredited at all times, with the other 5% incurring reaccreditation or engaging in initial self-studies for accreditation. Child development centers provide full-day, part-day, and hourly care for children ages 6 weeks to 4 years. Military child development centers provide care for military and DoD civilian children. Additional youth programs serve children from kindergarten through the teen years. Most child development centers have wait lists due to the nominal cost (based on a sliding fee scale) and the convenience of the child development center if families are living on installation; however, they often continue to choose military child development centers due to high quality of care and the low care-provider-to-child ratios. In addition, priority is given to active-duty service members and civilian personnel who are parenting singly. Child development centers on military installations offer full-time, part-time, and drop-in care (based on availability) as well as extended care on nights and weekends on some installations. All centers operate under the same health and safety, staff qualifications, and curriculum guidelines although the curricular programs may differ slightly among military branches, installations, program directors, and locations. For example, a child development center in Anchorage, Alaska, or Okinawa, Japan, may have a slightly different

curriculum than a center in Abilene, Texas; Vicenza, Italy; or Honolulu, Hawaii.

The United States Military Child Development Program is a valuable resource for military families as they rely on quality child care as a vital part of their everyday lives. The support that they receive from the Department of Defense is necessary as they endure frequent deployments, temporary active-duty assignments, standing duty, and unpredictable work schedules involving training and long hours. Best practices and high standards in child care for these Americans is not a luxury, but a necessity.

Certification, Licensing, and Accreditation: Standards That Govern Child Care on U.S. Military Installations

The Department of Defense maintains its own certification of child care programs. These are very akin to an individual state licensing process, but, unlike state licensures that vary from state to state, the DoD's certification process maintains consistent standards that are applied to U.S. military installation child development centers worldwide. Military parents (and staff) are able to relocate from one installation to another and enjoy the continuity of care and curriculum from center to center. According to U.S. Military Onesource, the DoD standards not only address the routine health and safety issues found in child care centers, but they also address parent involvement, staff training, and developmentally appropriate practice (NAEYC).

Accreditation by a national accrediting body is mandatory for all child development centers operated by the U.S. government. After completing an assessment of the child development center via a self-study, documents are submitted to the accrediting organization for review, prior to an accreditation visit. Once adjustments are made, accreditation standards must be maintained and are reviewed regularly.

Child care providers working in U.S. military child development centers are required to have higher levels of education and training, and most caregivers receive higher pay than many nonmilitary

providers in states within the United States—resulting in fewer turnovers and more continuity of care for military children. Extensive training by curriculum specialists is required for all providers at military child development centers and extensive background checks are required. Higher pay has been linked to higher quality of care in research studies. While approximately 97% of centers on military installations have earned the status of national accreditation, only 8% to 10% of nonmilitary centers are accredited.

Focus on Social, Cognitive, Physical, and Emotional Domains of Children's Development

Care for infants, toddlers, and preschoolers begins with a knowledge of child growth and development at particular ages and stages throughout the child's life. Best practices in caring for the unique ages of children is of highest importance for care providers as they will be responsible for providing activities and experiences that will enhance and support all domains of growth in the young children in their care. A caring and nurturing environment provides optimum support, whether military children are enrolled in full-time, part-time, or drop-in care. Their need for continued social, cognitive, physical, and emotional growth is at the forefront of curriculum planning, based on the ages and stages of each child individually as well as within a larger group. For example, toddler care will differ from infant care as toddlers are beginning to participate in group-time activities and purposeful and meaningful play, while infants are being held while fed and participating in individual developmentally appropriate activities. Preschoolers engage in activities provided by the Creative Curriculum for Preschool program that supports each child's interest as well as his or her strengths. This project-based early childhood curriculum was designed to prepare care providers with the skills to foster development in each individual child through the use of small- and large-group activities. Targeting the whole child (physical, emotional, social, cognition, and language) rather than specific or even limited

domains of development, this curriculum uses 11 interest areas in order to organize the classroom. Child assessments are an integral part of the Creative Curriculum, where care providers can use observations to plan activities and organize portfolios on each child. Parents are a vital component of the curriculum as providers work with parents in order to provide smooth transitions from home to school and school to home. As it has its roots in research, this comprehensive curriculum is a tool for care providers to plan and implement a content-rich, diverse, and developmentally appropriate experience for young children in military families.

In addition, some preschoolers in military families participate in Strong Beginnings, a program designed to facilitate the transition from home to school that includes school readiness activities in the areas of math, social and emotional development, and literacy/language. These areas provide rich content that focuses on children's curiosity and engagement in learning, positive interaction with others, and development of early and emergent reading skills. Music and movement as well as drama and dance provide opportunities for creativity. The Strong Beginnings standards have been aligned with standards in the Creative Curriculum for Preschool with commonalities in activities and approaches to learning.

Children with special needs (differently abled) are protected under the Americans with Disabilities Act (ADA) and are included in military child development centers. Reasonable accommodations are made to enable children who are differently abled to enjoy the same quality care that other children have. Unless a child's presence poses a direct threat or alteration to the program that cannot be sustained, he or she will be included. Several branches of the U.S. military have implemented programs such as SNAP (Army Special Needs Accommodation Process) in order to determine the best, safest, and least restrictive placement for children who have special needs and whose families have chosen for them to participate in child care activities, and/or sports and fitness activities. The Marine Corps and Navy also have review teams or boards to assist in this process to ensure

that all children are protected under the rights for services as indicated by the federal government.

What Can Be Learned From Improvement of U.S. Military Child Development Centers

Due to the acclaim given to U.S. military child care and its child development centers worldwide during the last two decades, it is imperative that lessons learned from its growth and experience be used to improve the quality of civilian care for our nation's children. As a frontrunner in child care practices, military child development centers have come a long way and are now a model for civilian child care. Child Care Aware of America (formerly NACCRRRA) provided initiatives to ascertain whether civilian care could become a parallel entity to military child care if certain strategies were used. NACCRRRA purports that the reauthorization of the federal Child Care and Development Block Grant (CCDBG) can become a catalyst for improving civilian child care, just as the Military Child Care Act of 1989 did for military child care. Highlights of military child development centers in contrast to civilian centers include consistency across the military branches regarding policies and procedures, subsidies and federal funds for seeking optimal standards of quality, and required extensive background checks for providers. Additionally, parents are consistently involved and are made aware of the true meaning of high quality, and providers are given support to meet higher standards through professional development that leads to higher pay. Most importantly, all military child development centers have or are seeking national accreditation with guidelines based on research and best practices in caring for children. Safe environments for their children with caring professionals have become standard expectations for active military men and women.

Karen Petty

See also Child Development and Early Childhood Education; Creative Curriculum, The; Military Families, Children in

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MILITARY FAMILIES, CHILDREN IN

Almost 2 million children in the United States have one or both parents serving in the U.S. military. Many of those children (about 37%) are age 5 and younger and are often considered as serving right along with their parents during deployment or active duty, sustainment beyond the first month of active duty, and reintegration or reunion once the parent returns from deployment. Younger children are the most likely to be affected by the challenges of being in a military family. Providing quality care for enlisted family members has a direct impact on the children within those families and those efforts have a lasting effect on the well-being of military children. This entry explores ways in which resilience theory is related to practice in working with

and caring for military children and what we can learn from military children and their families.

Resilience Theory and Practice

Resilience theory has been identified as a workable framework for describing the adaptations of children in military families, especially the impact that prolonged separation has on the resiliency or ability of young children to *bounce back*. Learning to cope during times of duress or stress is pivotal in military children remaining buoyant or being able to “stay afloat.” Their ability to recover well during these adverse times is a sign of the ability to adapt and change, sometimes referred to as remaining “upright” or centered. Not all young children will react the same way to similar stressors, and some may even cope well in spite of the challenges that military life brings.

One resiliency model has been described as a balance scale on which one side of the scale holds risk or stressors in a pan and the other side holds protective factors. Either side will tip, depending on the life event, but the main focus will be to assist young children in remaining centered or in preparing them to rebound or return to center.

Potential risk factors for military children may include fear of loss, child abuse, family violence, frequent relocation, parental stress, exposure to parents with posttraumatic stress disorder (PTSD), and child neglect. In a perfect world, these risks would have been eliminated but in the real world these have long been identified as barriers to the well-being, security, and comfort of young children in military families.

A growing number of researchers are focusing on strengths-based research where there are potential protective tools or factors for young military children that promote success. These may include the provision of at least one warm and caring surrogate caregiver during loss and/or separation from parents, community support for young children after a parent's death or injury, the provision of model child care facilities, and strong family (especially parental) relationships. In addition, to ameliorate or thwart stress, growing evidence

supports that teachers and caregivers of young children must provide additional strategies in order to provide best practices and curriculum in appropriate environments in formal classrooms and child care centers during the absence of military parents. Examples include using open-ended questions to stimulate thinking and fulfill curiosity, providing simple choices to engage the child in decision making, and providing opportunities for using initiative and problem solving. Applying resilience theory to practice has immense benefits for children in military families but also can benefit children who are in civilian families.

What We Can Learn From Military Children and Families

Resilience theory is important as a tool for examining the life course of children in military families, but young children in families outside the military face similar circumstances of separation and loss. Much can be learned from the research that is being done with military families and young children in particular, as there are numerous parallels between young children in military families and in civilian families and there is far-reaching potential for this research to help all children. Events such as separation by death, divorce, incarceration, and prolonged travel for jobs, to name a few, are common for children both inside and outside military families. In addition, nonmilitary children face events such as family violence, child abuse, homelessness, bullying, neglect, and adoption that can become risk factors.

Healthy parents protect the well-being of their children. Parental health is a strong protective factor and predictor of resilience in children, whether in or out of military families. Pathways to resilience also include the myriad of other influences on military children such as neighborhoods, friends, schools and child care centers on and off post, family members from afar, as well as the military itself. These pathways must lead to communities of care that include all of the strengths they have to offer. As military families often remain invisible to those outside the military, it is imperative that any stigma

attached to being military families or any other reasons that prevent military children from getting the care that they deserve be addressed at the local, state, and national (even international) levels.

Reinforcing Their Islands of Competence

Robert Brooks created the term *islands of competence* to describe the strengths that each child possesses and the need to focus on how children use those to strengthen their esteem and buoyancy when experiencing challenges, frustration, and even failure. The islands are the things that children do well or have mastered, enjoy doing, or choose to do when given the opportunity based on past positive experiences. For military children, these accomplishments can be the same as those for civilian children and can foster resilience with each new success. The key for parents, teachers, and caregivers in using their islands of competence is to recognize what those are and provide additional experiences for children to continue to build their self-esteem, which in turn builds resilience.

Karen Petty

See also At-Risk Families; Resilience in Adversity; Strengths-Based Education and Practices; Trauma and Young Children

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MINDFULNESS

Mindfulness is a state of consciousness involving paying attention to whatever is happening in the present moment with a curious, nonjudgmental attitude. The term mindfulness can refer to both a temporary state of mind and an enduring personal trait or disposition. While research suggests that some people may be naturally more mindful than others, it also suggests that over time, and with practice, one's state of mindfulness becomes consistently more accessible and more trait-like. This entry offers an overview of mindful awareness practices (MAPs), which have been adapted for teachers and children and introduced in educational settings with the aim of supporting the development of self-regulation. In addition, this entry highlights major research findings on mindfulness-based interventions, including Jon Kabat-Zinn's Mindfulness-Based Stress Reduction program and Lisa Flook's Kindness Curriculum.

Overview

MAPs typically involve directing and maintaining one's attention on a target, such as the breath, and can be practiced both formally (e.g., sitting meditation) and informally (bringing mindful awareness to an activity, interpersonal interactions, or sensory experience in the midst of daily life). MAPs entail monitoring one's experience, moment to moment, in a nonjudgmental way, rather than dwelling on the past or concerns about the future. Typically the attention wanders from the target and the practice involves noticing this, and bringing the attention back to the target, again and again during the practice session. MAPs involve three basic processes: establishing intention, focusing attention, and adjusting one's attitude.

The two basic forms of formal sitting meditation practices are referred to as *focused attention* and *open monitoring*. Focused attention involves focusing attention on a specific target, typically the breath. Open monitoring involves freely monitoring the content of one's experience with

an attitude of curiosity and nonjudgment from one moment to the next.

Research

For over 25 years, researchers have studied the effects of mindfulness-based interventions (MBIs). The most widely researched MBI is Mindfulness-Based Stress Reduction (MBSR), developed by Kabat-Zinn. Numerous studies involving adults have demonstrated that MBSR reduces stress, promotes well-being, promotes adaptive psychological functioning, and enhances attentional skills and emotion regulation. One study demonstrated that MBSR promotes brain structure changes associated with improvements in learning and memory processes and emotion regulation. In several studies involving teachers, Patricia Jennings, Robert Roeser, and Flook have found that MAPs can reduce teacher stress and may enhance their teaching performance.

While MAPs have been applied to promote similar effects among children in educational settings, the research on these programs is in its early stages. Adaptations of MAPs for children lead to questions regarding the developmentally appropriate scope and sequence of such practices, given that children experience dramatic changes in cognition and emotion during early childhood. MAPs adapted for young children in educational settings take a variety of forms, including mindful awareness directed toward sensory experience (such as listening and tasting), guided imagery, generating feelings of empathy and compassion, engaging in discovery of nature, the arts, and physical activities such as tai chi or yoga, or various forms of sitting meditation practices. Typically these practices involve interactions with peers and a teacher who may emphasize personal development and values. In this way, MAPs may feature a worldview including prosocial values.

Most research involving children has been conducted with older children or adolescents. However, a few studies of younger children have shown promise. Flook and her colleagues conducted a randomized controlled trial to explore

whether the InnerKids Program improved executive functioning among second- and third-grade children. The 8-week school-based curriculum includes brief MAPs focused on the breath and movement. Children who had especially low scores on parent- and teacher-reported behaviors demonstrating executive function showed significant improvement. However, the teachers and parents were aware of the children's group assignment so the data are not objective.

Flook and her colleagues developed another MAP designed for young children called the Kindness Curriculum (KC), aimed at cultivating attention and emotion regulation. The preschool version of KC involves mindfulness and kindness practices and incorporates children's literature, music, and movement. Flook and her colleagues conducted a randomized controlled trial of the curriculum in a preschool setting with 68 children. Children assigned to the KC group received two 20- to 30-minute lessons per week over 12 weeks. The study showed that KC improved social competence and report card grades in the domains of learning, health, and social-emotional development. In contrast, the control group exhibited increased selfish behavior. This study also showed that children who scored lower on social competence and executive functioning demonstrated larger gains in social competence, compared to controls. While the measures of selfish behavior involved a task performed under objective experimental conditions, the children's social competence and grades were reported by the teachers who were aware of the children's group assignment, and were, therefore, not objective.

Although there is limited research on the effects of MAPs adapted for use with children in educational settings, the results of this research are promising. They demonstrate that these approaches are feasible and call for further research that is more rigorous and involves larger samples of children.

Patricia Jennings

See also Emotional Development; Empathy; Executive Functioning; Social-Emotional Competence; Social-Emotional Development

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MODELS

Contemporary early childhood education models began to emerge in the late 19th century, reflecting changing beliefs regarding views of the whole child. Predecessors to contemporary models appeared throughout the 1800s. Johann Heinrich Pestalozzi started designing schools based on the development of the whole child and Jean-Jacques Rousseau's romantic view of the child. The "father" of kindergarten, German educator Friedrich Froebel, based his schools on play and active engagement. Elizabeth Palmer Peabody and Susan Blow introduced Froebel's concept of kindergarten to the United States in the late 19th century.

Psychology emerged as an academic field in the late 19th century and early 20th century, specifically developmental psychology with the work of G. Stanley Hall, Arnold Gesell, Jean Piaget, John Dewey, and Lev Vygotsky. These early developmental psychologists investigated the development of children. Simultaneous to developmental psychology research, education models for the young child began to emerge. From the beginning, early childhood education models incorporated developmental psychology. This relationship continues into the current period of early education. This entry details several prominent models of early childhood education: Montessori education, the project approach, developmental interaction, the Waldorf approach, the Reggio Emilia approach, and the HighScope model.

Montessori Education

Maria Montessori (1870–1952) was the first female doctor to graduate from the University of Rome. After becoming a physician, she worked with children committed to a mental asylum. It was in this time period she began observing children, leading to the development of her education model. Montessori noted that children naturally became absorbed in challenging tasks, and child behaviors became problematic when the children were not challenged. In 1907 Montessori opened her first school, *Casa dei Bambini*.

Montessori education is based on what she termed the *absorbent mind*: the idea that young children learn on their own initiative through sensory experiences and purposeful work. Montessori believed that a prepared environment was critical to successful learning. Her education model includes four distinct periods of growth: (1) birth to 6, (2) 6 to 12, (3) 12 to 18, and (4) 18 to 24. Much of her work focused on the first period of growth, during which the child passes through sensitive periods when she is open to leaps in learning.

Project Approach

The history of the project approach can be traced back to progressive educator John Dewey's work

at the laboratory school in the University of Chicago at the turn of the 20th century. For Dewey, projects were based on inquiry and the scientific method as children engaged in deep exploration. Learning occurred through authentic exploration, based on the child's interest. The project approach encountered periods of uneven popularity throughout the 20th century.

In early childhood education today, project work reflects the influence of Dewey and his student Kilpatrick. Project work consists of three phases: (1) planning, (2) investigating, and (3) the culminating work. The planning phase includes selecting the topic and creating topic and teacher webs in preparation for phase 2. Phase 2, investigating, is the fieldwork from which child-created artifacts emerge. Phase 3 allows children to present the project work through a culminating event. As the children progress through the three phases, there are four interrelated learning goals. These four learning goals (knowledge, skills, dispositions, and feelings) broadly embody the learning occurring through the project work. Project work is often used together with more traditional formal instructional methods.

Developmental Interaction Approach (Bank Street)

The developmental interaction approach is rooted in the educational approach of Lucy Sprague Mitchell (1878–1967), one of the Bank Street College of Education founders. She was a progressive involved in working toward a more democratic and egalitarian society. Mitchell was influenced by Dewey's philosophy and work on how to support children's learning.

The developmental interaction approach is based on developmental theory, including the works of Anna Freud, Erik Erikson, and Jean Piaget. The social experience within the democratic community is emphasized. Play-based learning is used extensively in the curriculum as children explore the social and physical environment. Social studies are the core of the model, and opportunities for children to experience democratic living are central.

The Waldorf Approach

The Waldorf approach was created by Rudolf Steiner (1861–1925) and is based on the philosophy of anthroposophy. Anthroposophy emphasizes humanism and spirituality. In anthroposophy, all individuals are one with the world while searching for their own truth. Childhood is divided into three stages that are similar to those of Piaget. Early childhood occurs from birth to 7 years, middle childhood occurs from 7 to 14 years, and adolescence occurs from 14 to 21 years.

The Waldorf model is based on the whole child, and children develop academically, artistically, and practically. Children learn through imitating their environments, using experiential and sensory experiences that occur during free play and outdoors. Oral language is the major tool used to teach language, often through fairytales told by the teachers. Simplicity is emphasized in all learning, and “academic” instruction is not used in the Waldorf approach.

Reggio Emilia Approach

Reggio Emilia emerged after World War II in northern Italy. Loris Malaguzzi is identified as the main contributor to the curricular philosophy that is based on the belief that children are capable and competent partners in the education process. The Reggio Emilia model incorporates exploration and discovery in a self-guided process.

Reggio Emilia does not use a curriculum, but rather a philosophy as children actively construct knowledge. Children learn through the “hundred languages of children” during long-term projects. The hundred languages refer to Malaguzzi’s belief that children learn through multiple ways of communication. Reggio Emilia programs have a strong community base of support. Parents are considered partners and collaborators, and teachers are co-learners and collaborators. The environment is the third teacher in the child’s exploration and learning.

HighScope Model

The HighScope Perry Preschool originated in Ypsilanti, Michigan, in the early 1960s. HighScope was one of the first early intervention model schools. HighScope incorporates developmental and cognitive psychology, including the work of Piaget, Dewey, and Vygotsky. The children served in these schools range from preschool through the elementary grades.

The HighScope model incorporates several critical components: (a) active learning by the child, (b) a learning environment divided into interest areas, (c) a daily routine, and (d) a plan–do–review sequence of learning. A child’s progress is followed through the use of key developmental indicators. HighScope has a well-developed system of observation and assessment called the Child Observation Record (COR). A significant amount of longitudinal research has been accumulated indicating the success of the Perry Preschool in educating children from high-risk environments.

Donna Karno

See also Bank Street; HighScope; Montessori Programs and Environments; Project Approach; Reggio Emilia Approach; Waldorf Education

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MONTESSORI PROGRAMS AND ENVIRONMENTS

In Rome in 1907, Maria Montessori established *Casa dei Bambini*, the Children's House, in collaboration with a building project supported by the banks of Italy. Casa dei Bambini included the children from lower-income families, from ages 2.5 to 7, in the San Lorenzo district. This multistory apartment building housed the original Casa dei Bambini with an enclosed courtyard for outdoor experiences. The families living within this poverty-stricken area of Rome were encouraged to enroll their children in Montessori's school. Young children with disabilities were welcomed and included in the school population because Montessori believed that all children had a capacity to learn. At the Centenary of the Montessori Movement conference in 2007, the Bank of Italy opened its Montessori Preschool for tours. The collaboration between Montessori's approach and the banks of Italy has continued into present day.

Montessori developed a curriculum reinforced by the natural development of children, observations of the children in their environments, and the individuality of each child. She believed that every child had potential that was waiting to be revealed. Activities within the classroom required the children to utilize their five senses in this hands-on approach. Montessori believed that children were more successful when they were left to work with materials independently, in their own control, at their own pace.

Finding children working for extended lengths of time is not unusual in the Montessori classroom. Their work is respected and concentration protected. Montessori promoted the idea of the absorbent mind of children. She established prepared environments for children to interact with carefully prepared materials, after an introduction by the teacher, at their own pace and in their own space. She described seeing the children absorbing a variety of aspects of reading, writing, mathematics,

botany, zoology, and geography without getting tired. She understood the learning environment to be essential, and she was the first to have child-sized tables and chairs. The environment was to be appropriate for the children's sizes, encouraging interaction at each child's own pace and in his or her own time.

The Role of Teacher as Guide

In the research on learning and creativity, it is clear that the processes of creative thought require freedom and flexibility on the part of the teacher. Rather than employing memorization and regurgitation of information, children should have ample opportunities to explore and examine phenomena closely on their own. It is also important for children to be able to work out their own mistakes in the time needed to do so without interruption.

Montessori encouraged her teachers to guide their students. Teachers who serve as guides recognize the sensitivity needed to carefully facilitate the children's process of exploration. Children are invited to pursue directions in thought or interesting problems to solve with positive support from their teachers. This enables children to work toward the exploration and experimentation of their own ideas, their own mistakes, their own solutions, and their own new interpretations to experiences and the manipulation of materials.

Prepared Materials and Organized Environment

Montessori designed prepared materials that were child friendly, strategically designed, and often self-correcting in nature. As she worked with children, studying her results regularly, Montessori developed a variety of materials for the curriculum areas of practical life, including self-care, science including the natural world, literacy, music, mathematics, and geography. Montessori's school included areas in which these materials would be carefully and thoughtfully organized and displayed. Montessori believed children had sensitive

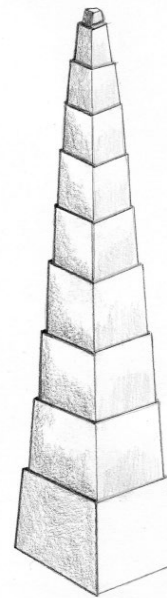
periods of learning that would be especially amenable to certain types of learning experiences, and she wanted to be sure that they could work during these times in a thoughtfully prepared and organized environment. Montessori also recognized that children were more productive when given the opportunity to come out from behind desks and tables, and pursue learning with materials in their own spaces, often on a rug on the floor, undisturbed for as long as they were involved in the activity.

An example of a carefully designed material is the “pink tower.” The tower consisted of graduated square wooden blocks that fit inside one another. The task, as introduced by the teacher, requires the child to start by laying out all the blocks in order of their size. The child would then choose the largest block to serve as the bottom of the tower. The child would then use visual observation and tactile information by using a finger to trace the perimeter of each increasingly smaller block to determine which one was the next largest and should be stacked on top of the previous block. The child successfully completed the pink tower when all blocks were stacked on top of one another with the properly sequenced sizes in order, one on top of another. The blocks were all painted pink to eliminate a visual distraction from the child’s determination of differences in size of blocks.

The pink tower was carefully prepared for the child’s use and was self-correcting in that if the child put the sizes in incorrect order the tower would not be stable. Once the introduction was given, the child would be encouraged to work, in uninterrupted time and space, to accomplish this task and correcting his or her own mistakes along the way in a trial-and-error fashion.

Another example of a classic prepared material is the set of graduated cylinders. These wooden cylinders were carved out of a rectangular block of wood and set in graduated sizes, from the smallest to the largest diameter. They were designed with little handles on top so the child could easily pull out each cylinder. Once the teacher introduced the activity, the child would be encouraged to pull out all of the cylinders and line them up according to

Figure 1 The Pink Tower

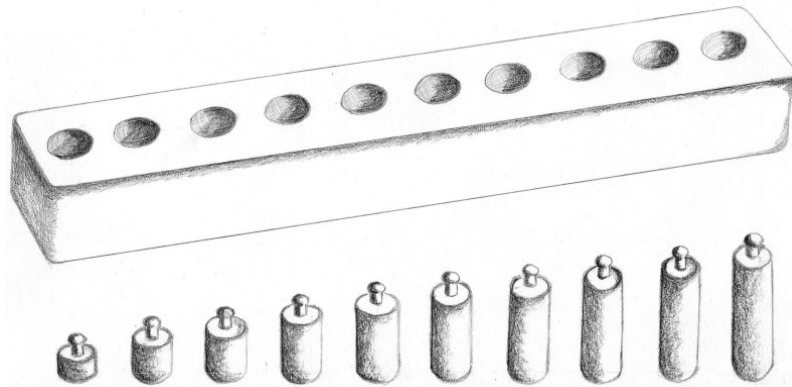


Source: Rebecca George.

increasing diameter next to their wooden block “home.” Then the child would use visual and tactile information by observing each block and using a finger to trace the circular diameter of that block. The child would then decide which hole was the home to this block in the long wooden rectangular base. These wooden cylinders and their wooden base home were all the same natural wood color so color would not be a confounding characteristic as the child was solving this task. Again, the child is encouraged to take the time and space needed to complete this activity. The materials are self-correcting in that if the child doesn’t put them in the correct order, there will be one or more cylinders that are left outside their home. Montessori fostered the idea that the child should be free to work on projects without being rushed or interrupted and solve the task in his or her own time.

Careful Observation

The processes of learning and creativity employ a careful use of observation. Astute observation is the elemental process for gathering sensory input that can later be processed and developed in creative

Figure 2 The Graduated Cylinders

Source: Rebecca George.

modes of application. Montessori expressed the importance of supporting opportunities for observation and gathering sensory data in the learning processes of the child.

When the teacher helps direct the student's development of careful observation, creative exploration is facilitated and strengthened. Montessori recognized that the child becomes an active observer of the world and increasingly recognizes fine distinctions and variations across elements in the concrete world. These repeated experiences with observation, comparison, judgment, and decision making are what Montessori believed built intelligence and furthered development.

Mathematical Learning

Montessori developed a sensory-rich approach to understanding mathematical concepts. She created counting beads on wires, from one to flats of 100. As the child counted the beads, with each number starting out a different color to demark differing amounts, the child could add numbers together by physically counting the beads on wires and linking them together. Quantity and place value are naturally encountered; as the numbers increase in amount, the child is encouraged to build physical models of each number. Montessori built these mathematical materials ensuring a sensory link to the evolving concepts

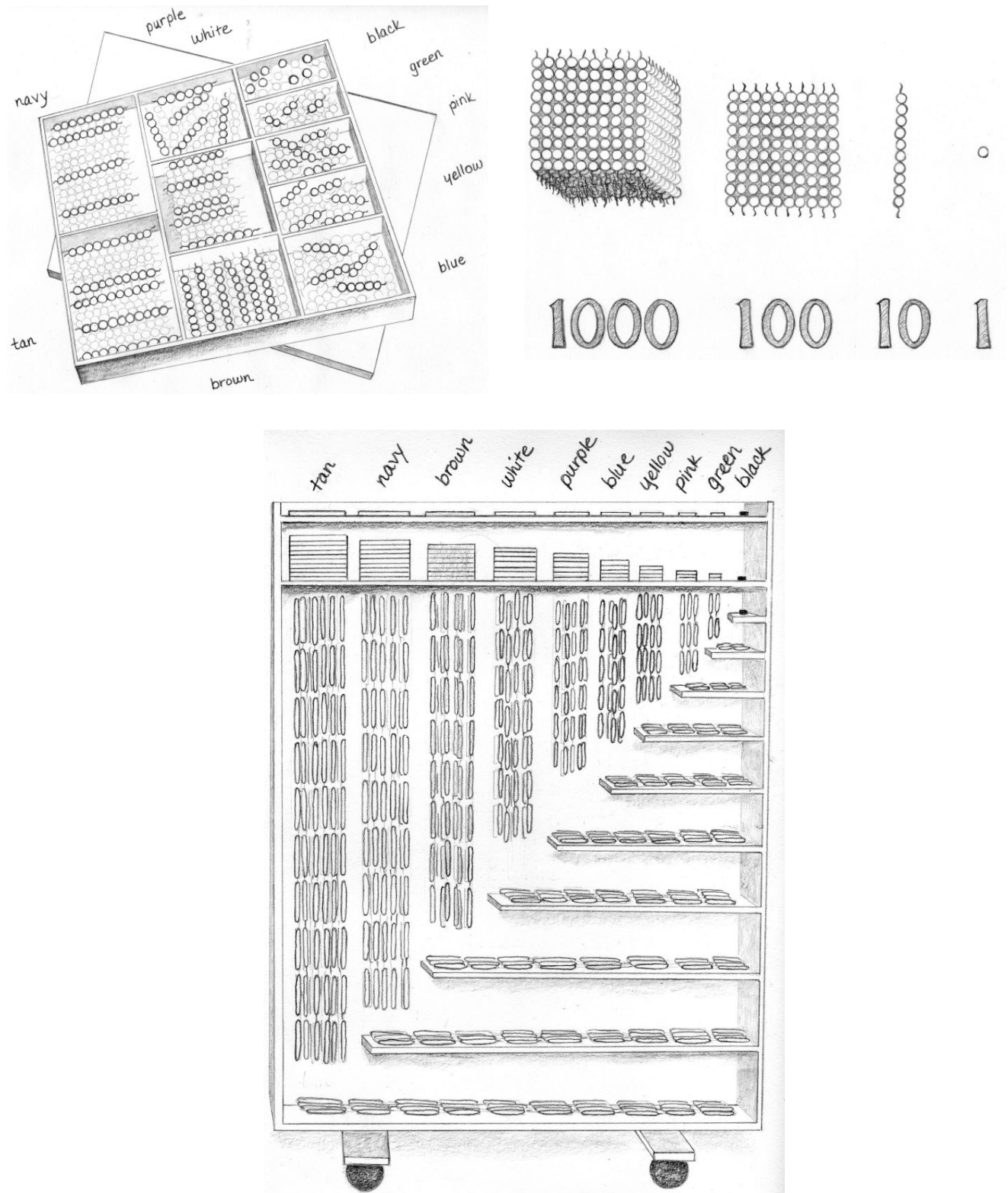
of number and number processes involving mathematical thinking. When Joy Faini Saab visited the Bank of Italy Montessori School in 2007, a 5-year-old student easily built a physical model for a self-chosen number (3,654) using beads on wires and flats of 100 beads, laid in a cube to become a stack of 1,000, along with the standard number labels. This emulated the Montessori approach of incorporating child-initiated learning, problem solving, sensory input, observation, tactile experiences, and individual initiative.

Problem Solving

Creative problem solving requires experiences and flexibility, and manipulation of materials in fluid and manageable ways. Recombining materials and ideas allows the child to solve problems in unique methods.

Montessori encouraged sensitivity on the part of the teacher. The teacher who is sensitive to the inherent curiosity of young children supports problem solving. The child is encouraged to be the problem solver in all experiential tasks, thereby encouraging children's industry and initiative in creative tasks. Self-efficacy is supported by success at real tasks. Montessori observed this and encouraged teachers to provide opportunities for students to encounter tasks in their own time and at their own pace, free to try and try again if needed.

Figure 3 The Counting Beads



Source: Rebecca George.

Fostering an Atmosphere of Initiative and Industry

The creative learning process flourishes in an atmosphere of initiative and industry. When children are supported in the business of learning, they are more likely to engage in challenging tasks requiring initiative, industry, problem solving, and creative thought.

In Montessori's approach, children are supported in their meaning making without interference. They have uninterrupted time to discover, attend, observe, compare, contrast, and classify phenomena. In this way, creative learning processes of the mind, forming a rich content foundation of understanding and sensory knowledge of concepts, are facilitated.

Focus on Sensory Information

In the learning and creative thinking process, sensory information must be gathered in as many modes as possible. Once the phenomena have been studied, through the senses, ideas can be processed and combined in new ways of thinking.

Montessori acknowledged the power of sensory exploration. She encouraged the children to use all sensory modes of exploration as they manipulated materials and recombined elements of sensory play. Montessori helped other adults realize that children must employ their senses in creating understandings of their world. Her observations of institutionalized children with mental disabilities yielded this belief. Montessori documented her observations and analyzed them, resulting in the development of her sensory-rich approach to teaching all young children.

Fostering an Atmosphere of Psychologically Safe Experimentation

In the learning and creative thinking process, an atmosphere of psychologically safe experimentation is paramount to success in finding new ideas. Once the student is assured of a safe environment in which to suggest new ideas, without the fear of embarrassment or ridicule, learning and creativity are fostered.

Montessori encouraged this psychologically safe environment for trial and error to take place. She supported an atmosphere in which children could try out new ideas without being chided or ridiculed. Their trial and error could employ revision without the negative effects of failure found in more traditional settings. Montessori advocated the possibility for the child to experience failure at a task and then an ample opportunity for that child to stay with the task to be successful.

Movement Is Encouraged

Learning and creativity often employ various types of intelligence. Children who are bodily kinesthetic in nature process their understandings through movement. Montessori's observations had revealed that children depended on their physical involvement with new phenomena.

Montessori honored the child's physicality by encouraging the gathering of information and the processing of ideas through touching, moving, and experiencing. She was one of the first leading educators to identify the importance of movement in the learning processes of children. She helped others see the difference between fidgeting and sensory input. A child in a Montessori classroom is free to arrange for involvement in a task in a time and place that is conducive to a full sensory interaction with the materials at his or her own pace.

Music Is a Learning Opportunity

Montessori advocated the inclusion of music in the curriculum. She restated this desire in her publication of her advanced methods book describing the importance of musical education during the sensitive period of ages 3 to 6 years as a foundation for building musical skills and appreciation for the future. Child-sized instruments and movement to music was a regular part of her method. Montessori recognized the importance of children demonstrating their response to the rhythms and melodies of music through marching, playing, notating, and responding to live and recorded music.

Encouraging the Richness of Process Over Product

Intelligence, development, and creative thought are all direct results of the processes of exploration, manipulation, and recombination. When children are immersed in rich experiences that they control, they are more likely to engage creativity. Once creative endeavors are successful and flourishing, the child's self-efficacy is enhanced.

Montessori expressed that the aim of education is not an external one; for example, it is *not* the object that the child should learn how to place cylinders in order by size. Rather, Montessori described the goal of education as an internal one. She believed the child should have ample opportunities to develop the ability to observe, to make careful comparisons, to reason, to form judgments, to decide and thus, by repeating these experiences as often as needed, intelligence and true development will result. Inherent in this goal is the desire for industry and exploration in the daily experiences of the child. Montessori encouraged trust and respect in adult interactions with children. This is the very rich basis, the fertile ground from which learning and creativity can bloom and flourish.

In conclusion, Montessori was an astute observer of young children. She saw the process of the development of intelligence and creative thought reveal itself in children's manipulation of the environment and their creative recombining of phenomena. Montessori created a method of teaching young children that incorporated a carefully planned environment filled with intriguing materials for children to experiment with in their own trial-and-error processes in their own time. When given the inspiration, opportunity, support, and materials, children's learning, creative thinking, intelligence, and problem solving can thrive. Montessori's work has stood the test of time and has been validated throughout history as a valued, effective, honored, and respectful approach to encouraging the learning, development, and creativity of young children.

Joy Faini Saab

See also Child Development and Early Childhood Education; Child-Initiated Learning; Curriculum and Early Childhood Education; Early Childhood Education; Early Childhood Special Education; Early Childhood Teacher Education; Early Number Representation Development

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MORAL DEVELOPMENT

Moral development refers to the emergence and progression of an individual's sense of right and wrong across his or her life span. Moral development theories focus on various dimensions of morality—describing age-related change in understanding and adherence to philosophical principles, moral emotions, care for others, and the degree to which one's behaviors conform to societal norms and expectations. These theories are also concerned with issues of what might account

for change and the factors that impact on development. This entry offers an overview of early research on the moral development of children by key thinkers in the field, including Sigmund Freud, Lawrence Kohlberg, and Jean Piaget, and further considers contemporary perspectives on the topic.

Moral Development: Early Research

Early scholars were concerned with the question of how children become functioning and “moral” members of society. Although approaching this issue from divergent perspectives, a common underlying thread was the idea that moral development was a process whereby children’s behaviors and motivations were initially externally controlled and later internalized.

Freud suggested that infants and young children start as egocentric beings focused solely on fulfilling their desires and needs; but through socialization, they learn to balance desires with societal norms and values. In his psychoanalytic work, he suggested that underlying this development was a complex process of identifying with socialization agents and learning to repress desires or transforming them into socially accepted behaviors. Behavioral and social learning theorists presented a contrasting view by emphasizing the consequences of actions. Although they were similarly concerned with age-related change, they pointed to external agents’ punishment or rewards for behaviors as accounting for the development of children’s socially accepted and moral behaviors.

For the better part of the 20th century, scholarship on moral development was dominated by cognitive development theory and a focus on how thinking and reasoning about right and wrong evolve with age. Perhaps the most prominent theorist within this field was Kohlberg, who proposed a stage theory of moral development that depicts the individual as having an increasingly complex understanding of and adherence to justice-oriented principles. Kohlberg expanded on the original theory proposed by Swiss psychologist Piaget that depicted moral development in two stages—heteronomous morality (i.e., inflexible

rules, right and wrong is based on consequences) and autonomous moral reasoning (i.e., guilt is based on intentions and rules are based on mutually agreed-upon social contracts).

In his expansion of the theory, Kohlberg proposed three levels that subsumed six stages of moral reasoning. In Level 1, pre-conventional morality, individuals are not yet reasoning based on society’s rules or norms. Most common in early childhood, individuals at this stage make judgments in an egocentric manner in order to avoid punishment and/or obey authority (i.e., Stage 1, punishment-obedience) or to maximize gains for one’s self or others (i.e., Stage 2, instrumental relativism). In Level 2, conventional morality, individuals are keenly aware of and internalize society’s rules and norms and make judgments based on what might be seen most favorably by others (i.e., Stage 3, good boy/girl orientation) or make judgments regarding right and wrong based on laws, duty, and obligation to authority (i.e., Stage 4, law and order). Individuals within Stage 4 tend to see rules as inflexible and necessary to maintain order—thus, adherence to laws and rules becomes equated with what is right. Finally, in Level 3, post-conventional morality, the individual operates based on principles that underlie laws and conventions rather than their literal interpretation. Within this level, Stage 5, social contract, rules are seen as a mechanism to benefit the greater good. Thus, rules are not fixed and must be changed if they no longer serve the vast majority. In this stage, moral judgments are based on what will benefit the most number of people. Finally, in Stage 6, ethical principles, reasoning is based on abstract moral principles of justice and human rights—which may or may not conform to laws or popular opinion. Ethical principles followed here are important for their own right (e.g., justice) rather than its products.

Several researchers criticized this early scholarship on moral development. For instance, Carol Gilligan suggested that Kohlberg’s depiction of development from self-focused to rights-oriented principles is strongly biased toward males. She argued that although males may indeed be more likely to make decisions based on principles of

fairness and justice, females are more likely to emphasize principles of caring and the protection of relationships. Other researchers have questioned the degree to which moral cognitive theory, premised on Western philosophy, is reflected in other societies, for instance, where Eastern philosophy and religion are more heavily espoused, or where collective and interdependent relationships are valued over independent rights. Indeed, cross-cultural research suggests limitations with regard to the degree to which Kohlberg's proposed stages, and particularly the presence of the highest levels (e.g., Stage 6), can be identified across various societies.

Contemporary Scholarship

Newer conceptualizations of moral development focus on a range of domains and do not necessarily espouse a clear line of progression from purely external to internal control. One example of this conceptualization is Nancy Eisenberg's work on prosocial moral reasoning. She proposed the following levels of moral reasoning in situations where there are no clear laws or guidelines—hedonistic (self-focused), needs-oriented (intending to meet the needs of others), empathic (helping based on emotions evoked by the situation), and internalized/altruistic (judgments based on internalized beliefs and values). The body of work that she and her colleagues have conducted suggests that individuals may shift between levels of moral reasoning depending on various situational demands such as the strength of cues, relationship between actor and potential recipient, as well as a host of individual-level factors (e.g., age, gender, cultural background).

Moreover, although earlier research depicted the first few years of life as a period where there was a lack of internal principles but instead a need for externalized control, contemporary scholarship suggests the presence of many components of moral reasoning, behavior, emotions, and their precursors in early childhood. Soon after birth, for instance, infants appear to display distress at the sound of other infants' cries. Referred to as "emotional contagion," this distress is specific to the

sound of an infant crying versus other noises and sounds, and researchers suggest that this is a precursor to empathic responding. By toddlerhood, children display a host of other-focused behaviors (e.g., offers to help, comforting of others, responding to distress). Indeed, during this time, significant gains are made in emotional skills related to moral development such as empathy (e.g., showing concern when someone else is in distress) and cognitive skill such as perspective taking—both of which are implicated in moral and prosocial development. Moreover, both experimental and field research has documented children's display of helpful behaviors and concern for others that, although rudimentary, suggests the presence of moral and other-focused actions very early on.

Recent works on moral development have also emphasized the importance of early relationships in the formation of children's morality. For example, young children have been found to look to parents' reactions in the face of ambiguous situations (i.e., social referencing). Moreover, parenting practices—the use of inductive strategies (e.g., explaining rules, engaging children in dialogue) versus power assertion (e.g., children must follow because parents hold authority)—and having a close and supportive relationship have been linked to stronger internalization of moral principles.

Finally, the acknowledgment of the role of the child in his or her own socialization is somewhat unique to contemporary research. Early psychoanalytic, learning, and cognitive development theory all emphasized the roles of external socialization agents. Research now suggests the importance of children's own dispositions in their socialization. Components of children's temperament (i.e., early personality traits and dispositions), specifically inhibitory control (i.e., ability to control one's own behaviors), and impulsivity are linked to later conscience development. Moreover, children's characteristics also impact the various external factors noted earlier. For instance, children's dispositions can impact on the quality of the relationship between parent and child. Thus, children are not passive characters in their own moral development but are active participants co-constructing their

own experiences and affecting the very socialization agents once depicted as fully responsible for molding children into moral beings.

Implications

The research on moral development presents several potential implications for strategies that parents and educators can employ in fostering children's moral development. There is a robust body of work that supports the importance of inductive socialization practices over power assertion, for example, as conducive to the development of independent and internalized moral reasoning. Strategies that promote empathy in children also appear to be integral to the development of moral understanding and care for others. This includes such practices as helping children recognize their own emotions, as well as helping children understand the impact of their own behaviors on others. Assigning tasks and chores also appears to foster responsibility and a sense of contribution that is also linked to moral development. Finally, the modeling of positive and moral behaviors (e.g., helping others, donating) by socialization agents (e.g., parents, teachers) appears to be more powerful in fostering these same behaviors in children as compared to talking about or ordering children to do the same.

Maria Rosario T. de Guzman

See also Emotional Development; Empathy; Ethics in Early Childhood Education; Social-Emotional Development; Sociomoral Development

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MORAL DIMENSIONS OF TEACHING

At its core, teaching is an inherently moral endeavor. It is so for two very basic reasons. First, teaching is founded on the relationship between a teacher and a student. Relations are in essence moral in nature; thus, the relational nature of teaching imbues it with moral significance. Second, teaching entails decisions and actions on the teacher's part that influence the growth and well-being of others. Teachers seek to change those in their care for the better, that is, toward desirable ends.

Overview

Because early childhood educators work so intimately with young children and families at significant times in their development, it is crucial that early childhood educators be aware of how their work is infused with moral significance and moral meanings, both for themselves as professionals and for the families and children with whom they work. As moral dilemmas may arise between a teacher's beliefs and values and those of administrators or the children's parents, an

awareness of one's own beliefs and values and how they play out in teaching and curricular decisions can increase understanding of what might cause moral dilemmas to arise and provide guidance on how to resolve them.

Research

One way of understanding the moral dimensions of teaching was outlined by John Dewey when he made an important distinction between ideas *about* morality and *moral* ideas. For Dewey the former are ideas about goodness, honesty, or justice, which provide information but do not change one's character or move one to action. However, it is moral ideas that provide a means by which individuals can improve. This distinction by Dewey makes possible an understanding of teaching as a moral endeavor.

Alan Tom elaborated on this distinction when he proposed viewing teaching as a moral craft. Viewing teaching as a moral craft directly challenged the long-held view that teaching is based on principles provided by research in the behavioral and social sciences. Teaching was seen as the application of guidelines and principles based on scientific research. Tom sought to synthesize the moral aspects of teaching with the craft basis of teaching. Tom combined these two elements to create the moral craft metaphor for teaching. The moral craft metaphor moved the view of teaching beyond a skill-based, technical activity to one that combined a moral vision with reflective, deliberate, and thoughtful action.

Research in the early 1990s saw several groups of researchers continue to explore the moral dimensions of teaching. Seeking to look deeper into the moral aspects of teaching, Philip Jackson, Robert Boostrom, and David Hansen undertook extensive observations in a range of classrooms from elementary to secondary, both public and private. Through this work they uncovered a variety of ways that the moral is infused and present in both formal and informal curriculum, teaching methods, the routines and rituals of the classroom, room arrangements and the displays of students' work, and the ways teachers express themselves to students.

Of this group, Hansen has continued this line of research. Hansen posits that teaching is a moral activity because teachers strive to help others learn what they previously did not know, to acquire skills they did not have, to view the world from perspectives they did not have. Because teachers endeavor to change students in ways that focus on positive and desirable ends, and this calls for teachers to be attentive to the intellectual and moral growth of students, teaching is at its core a moral endeavor.

Cary Buzzelli and Bill Johnston have chosen to look at how the moral is expressed in specific aspects of teaching, such as the ways teachers use language, exercise their authority, and teach about culture. Here consideration is given to how the moral can be found at the critical point between teachers' personal beliefs about teaching and learning and the social realities of the classroom, such as the values of the families who attend the program.

Gary Fenstermacher, Virginia Richardson, and Matthew Sanger approached the moral dimensions of teaching by considering the manner in which a teacher approaches teaching, the nature of the teacher as a person, the nature of the teacher's methods, and the features of the curriculum. The manner of a teacher includes such things as the dispositions a teacher has toward students, for example, whether the teacher expresses honesty, fairness, patience, and openness in relationships with students. These same dispositions are expressed in teaching methods. This approach is similar to Elizabeth Campbell's work, which frames teachers as ethical professionals whose work involves both practical wisdom, the content and pedagogical knowledge of teaching, as well as the professional wisdom to exercise both content and pedagogical knowledge in an ethical manner.

Studies conducted with early childhood educators have focused on the aspects of teaching dilemmas that gave them moral significance. Researchers in Sweden found that early childhood teachers described moral dilemmas as falling into two categories. One set of dilemmas involved conflicts among teachers, colleagues,

and parents over what each believed to be in the best interests of the child. The second set of moral dilemmas involved the tension among teachers' values, the values of their profession, and the society at large. A more recent study with Turkish early childhood educators found similar results.

Implications for Early Childhood Education Teacher Education

Increased attention is being given to teaching about the moral dimensions of teaching in teacher education programs. Teacher education programs have begun to include more experiences through which preservice teachers can develop the abilities to recognize the features of a dilemma that give it moral significance and the strategies to resolve moral dilemmas in ways that respect all involved. Preservice and in-service teachers can benefit from discussions in teacher education programs and with colleagues in professional settings that examine moral dilemmas from multiple viewpoints. Through these activities and practices teacher educators seek to develop in preservice and in-service teachers the knowledge and dispositions that allow them to approach the practice of teaching through a moral framework.

Cary A. Buzzelli

See also Caring; Ethics in Early Childhood Education; Moral Development; Teacher Beliefs

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MOTHERS

Although children have meaningful relationships with many people, the relationship between mother and child is unlike any other. Mothers serve in all sorts of roles, including as teachers, mentors, disciplinarians, and confidants. This unique relationship often begins prenatally and is far reaching throughout the life span, impacting both mother and child in many capacities.

The bond between infant and mother is instant. Sensory perception in early life seems to be tuned to recognize caregivers above other individuals, and more specifically, to recognize mothers. An infant's auditory perception is well developed, even before birth. This means that the infant is born knowing what his or her mother sounds like. They are able to recognize and identify their mothers' voices and unique speech patterns. Research has demonstrated that infants seem to have some memory ability of sounds they heard in the womb. This would mean that infants not only recognize their mother almost instantly by voice, but also have a capacity to recall her sounds and the way that she speaks that differentiates her from other adults. In research settings, infants have been shown to have the ability to discriminate between their mother's voice and the voices of others in the first few days of life.

Infants are also able to recognize their mothers by using their sense of smell. Within the first few days of life, an infant knows the scent of his or her mother and can discriminate her smell over other women. While vision is poorly developed at birth, infants begin scanning the edges of their mother's faces during feedings. The distance that an infant is typically held from an adult's face during feeding times is approximately 6 inches, the perfect distance for them to begin to focus their eyes. As they get older, they begin to focus on moving features, such as eyes and mouth. However, early on, just scanning the edges of the face and focusing on the contrasts created by the different features help infants begin to visually recognize their mothers. These early abilities not only play a role in helping the infant determine his or her mother or primary caregiver, but also comfort and provide confidence to the mother when she sees that her infant recognizes her. These interactions lay the foundation for the lasting emotional bond between mother and child.

In early life, infants do not even have the cognitive ability to recognize themselves as an individual. At first they see themselves as an extension of their mother, not really realizing that they are a separate being. As they develop cognitively,

emotionally, and socially, they begin to realize that they are separate with their own thoughts and feelings. Early care-giving interactions between mother and child set the stage for later development. Consistent, warm responses to hunger or distress teach the infant a lot about early relationships. The strong emotional bond between child and primary caregiver, known as attachment, is an invaluable connection that not only influences the outcomes of the child, but also impacts future relationships in which the child plays part.

The attachment relationship, typically between mother and child, plays an integral role in a child's future development. Children actively explore their environment using their mothers as a secure base. Being able to freely explore, while knowing that a caregiver is present, gives the child a feeling of safety and security. Children with secure attachments are generally confident, competent, have high self-esteem, and do well academically. They are also typically well liked by their peers. Children with insecure relationships often have trouble with aggression, and can also be clingy or overly self-reliant. Typically, children with insecure attachments often have trouble socially, academically, and are at higher risk for numerous other negative outcomes.

Mothers are often the child's first teacher. From birth, mothers are teaching their children skills and character-building traits. Just responding warmly and consistently to a child's cues for hunger or distress is teaching the child consistency in expecting an outcome. When a mother talks with an infant during feeding and naturally pauses to gauge a reaction from the child, they are teaching the child rules for later communication and conversation. As a child matures and becomes more active in the relationship, teaching continues through interactions. Labeling objects, pointing out items, and focusing on selected things with children help teach them words and build their vocabulary and teach them rules about how to engage with others socially.

Mothers are also often one of the child's first disciplinarians. Positive guidance techniques used by the mother to redirect or distract children from

harmful things or negative behaviors are typically the first form of guidance used. When a mother uses natural and logical consequences to teach children about the outcomes of behavior, children begin to internalize what behavior is desirable, and why. These important interactions not only are important for the child's behavior but will also lay the foundation for the way a child responds to peers and other adults. Social learning is a crucial part of being human, and mothers are largely responsible for this weighty task.

There is no question that the relationship between the mother and child is unique. Research highlights the many amazing abilities that infants have to recognize their mothers and demonstrates the importance of a strong mother-child relationship on future child outcomes.

Elizabeth McCarroll

See also Infant-Parent Relationships; Maternal Work Status; Parenting Effects on Child Development; Parents as Teachers; Work and Families

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older individuals, and at the same time they sometimes appear to be sensitive to things that are beyond everyone else. Yet from birth on, children experience *motivation*.

In order to understand how children experience motivation, it is first necessary to define motivation. The term originates from the Latin, *movere*, which means "to move." While textbook definitions of motivation differ, the term generally refers to the underlying tendencies that move individuals toward specific, goal-related actions. Motivation is an ongoing process that brings purpose to problem solving and serves as the basis for self-regulation. Thus, motivation plays a role in both the initiation of and persistence in goal-related behaviors. The plethora of motivational theories, in part, reflect the multifaceted nature of motivation. Diverse theories also help to explain motivation as it varies from individual to individual and from age to age.

Children are born with a desire to learn and master their environments. This is *mastery motivation*. This general propensity toward learning becomes increasingly domain specific as children grow older. Thus, while many young children attend to just about any new experience, as they get older they are likely to express a love of learning within a specific domain, such as math or science.

The connection of an individual with some domain, or with any part of the environment, represents one important category of motives and motivational theories. In fact, the most common attempt to individuate types of motivation focuses on the source (i.e., external or internal) of motivational factors. Individuals who are *extrinsically motivated* engage in behavior in order to receive external rewards or avoid punishment, while *intrinsically motivated* individuals engage in behavior for internal reasons, such as personal interest. Differentiating between external and internal motivation is extremely important when considering the motivation of young children. As previously stated, young children are intrinsically motivated to master their environments. However, it is not uncommon to witness the extrinsic motivations of children. They may show an eagerness for favorite food, attention, or particular toys.

MOTIVATION

Early childhood is a unique period. Children in the first few years of life seem to be oblivious to many experiences that could not be ignored by

A second approach to motivation focuses on the need for relatedness, competence, or autonomy. *Relatedness* refers to the desire for community and support. *Competence* can be loosely defined as the need to succeed. Even if both of these needs are met, individuals still strive to have control over their own learning, and thus require opportunities to develop and express autonomy. Environments and situations that are structured to meet these basic needs are conducive to the development of intrinsic motivation. That is, when needs are met, individuals are more likely to engage in learning for the sake of learning.

As children develop, their needs fluctuate and change. The need for competency in infants, for instance, may be fulfilled by learning to eat finger-food without help, whereas toddlers may fulfill this need by successfully engaging with a toy without parental guidance. In order to facilitate motivation in children, specific emphasis should be placed on fulfilling their idiosyncratic needs.

Attribution theories may help to explain the motivations of children who have developed self-awareness. The assumption is that, on some level, individuals think about their success or failure. Three factors—*locus of control*, *stability*, and *controllability*—form the basis of attributions. Individuals with internal loci of control attribute the outcome of behavior to internal factors, such as effort, whereas those with an external locus of control tend to attribute outcomes to uncontrollable factors, such as luck. Stability refers to whether children attribute outcomes to fixed or dynamic causes. If causes are seen as fixed, children are probably unmotivated to engage in problem solving. They believe the outcome is unchangeable, despite increased effort.

Beliefs concerning loci of control and stability are highly related to controllability; children are unlikely to be motivated to engage in behavior if they believe they have little control over the outcome. Many attribution theories are directed at adults and used to explain specific behaviors in academic and/or work environments, but clearly there are important implications for

early childhood. Children who believe they have control over the outcome of their behavior, and are encouraged that their efforts can increase success, are more likely to grow confident in educational settings and remain motivated to learn.

Children also develop important expectations about themselves and the impact they may have on the environment. At this age, *expectancy-value* comes into play. The key idea here is that motivation is a function of the expectancies concerning the outcome of the behavior, and the value the individual places on the goal. Thus, if a child expects that success is possible, and highly values a successful outcome, he or she is motivated to strive toward achieving the goal. It is important to note that both positive expectancy and value are necessary for motivation in this model; even if children place extreme value on a positive outcome, they will make no strides toward achieving the goal if they expect success to be impossible. Note the implication for parents working with young children. It is not enough to simply tell children they “have to do something.” This places little value on the behavior, thus doing nothing for the child’s actual motivation. However, when children are encouraged to find personal value in certain actions (i.e., behaving at a restaurant in order to set a good example for a younger sibling), they will more likely remain motivated to engage in the behavior.

Self-beliefs are often included in explanations of motivation, perhaps even as a main ingredient. Children with positive self-efficacy—the belief in one’s own ability to successfully complete specific tasks—are likely to display persistence and view challenges as opportunities for growth. A slightly more general perspective focuses on self-concept. Here the idea is that children form self-beliefs based on external sources, such as interactions with others and cultural/societal norms. Thus, as children interact within a rapidly changing environment, their motivation evolves along with their sense of self. These processes are extremely important for early development. A young child’s sense of self develops as he or she continually interacts with new individuals and accumulates life experiences.

The early years shape self-beliefs, thus impacting the motivation that stimulates and fuels behavior.

Internalizing Mastery Motivation

Mastery motivation was introduced earlier, the premise being that children are born with a desire to understand and control their environments. This mastery motivation forms the basis of intrinsic motivation; if infants and young children are supported in their quest to understand and control their immediate environments, they are likely to internalize these feelings of autonomy and competence and become intrinsically motivated to continue learning as they grow older. Infants and young children exhibit impressive persistence in task-directed behaviors in order to fulfill their needs. Toddlers will remain focused on retrieving a toy from behind a barrier, and revel in a sense of efficacy when they finally succeed. Young children who are appropriately challenged and stimulated will be continually determined to master their environment, thus building the foundation for intrinsic motivation to learn in the later years.

Infants and young children display mastery motivation by demonstrating persistence at somewhat difficult tasks, as well as a preference for control and challenge. As infants recognize that their actions have an effect on the environment (e.g., a baby smiles and her parents respond positively), they begin to develop a sense of competence while simultaneously fulfilling the need for relatedness with the caregiver. As infants progress to toddlerhood, their self-awareness is also rapidly developing. The ability to self-regulate forms the basis for autonomy; young children are able to make simple choices and take pride in “doing things on their own.” They are still inherently motivated to master their environment, although this now involves more intricate processes (e.g., a toddler remains engaged in filling a wagon with blocks).

As children grow, their motivation becomes more differentiated across domains. However, children 5 to 7 years old still typically imply an undifferentiated motivation, which reflects the

“all-or-nothing” attitude common to this age group. It is imperative to provide for the needs of these children and create environments that foster motivation, because they are quick to conclude that they are “good at everything” or “bad at everything” (Harter, 1999). The lack of differentiation in motivation of young children can be attributed to a lack of knowledge of self; in order for children to demonstrate intense motivation toward succeeding in a particular domain, they must have an understanding of who they are, and what they value. Furthermore, young children have not been exposed to as many learning experiences as adolescents, and thus have not had the opportunity to focus on specific domains. Establishing beliefs that foster the development of intrinsic motivation (i.e., encouraging the establishment of internal loci of control by stressing the importance of effort, or modeling how to persevere in the midst of difficult situations) at a young age builds a strong foundation for more specified motivation in the later years.

While it might be tempting to simply categorize motivation as intrinsic or extrinsic, it is unlikely that children engage in activity due to purely intrinsic or extrinsic motives. Indeed, while most would agree that intrinsic motivation is preferred over extrinsic motivation—especially with regard to the expression of creativity—there are several types of extrinsic motivation, which vary in terms of self-determination. *External regulation*, for example, occurs when behavior is purely motivated by the desire to earn a reward or avoid punishment. *Introjected regulation* refers to behaviors that are performed in response to internal pressures, such as guilt or fear of rejection. Thus, while the motivation is internally driven, the child engages in the behavior more out of obligation than internal interest. *Identified regulation* occurs when children identify with the reasons for performing a behavior. When the reasons for performing a behavior are commensurate with individual values and beliefs, regulation becomes integrated.

In this sense, it is possible for children to internally regulate behaviors that were originally performed due to external factors. Young children are

likely to engage in behaviors that please their parents (external motivation), but as they gain experience, they begin to recognize and identify the reasons that their parents support this behavior (identified regulation). If appropriate support is provided, children can then integrate these beliefs into their own values. That is, over time, the behavior can become more intrinsically motivated.

Environments That Stimulate Motivation

Quite a bit of empirical research has been conducted to determine which environments encourage young children to build the belief systems and develop the skills that facilitate intrinsic motivation. Environments that meet the basic needs of relatedness, competence, and autonomy provide necessary stimulation for the development of motivation. Parents and educators who are calm and supportive provide relatedness, creating a safe place for learning. When young children are encouraged to make their own decisions, they develop both a sense of autonomy and competence. Although it is tempting to consistently reward good behavior, it is important to support learning itself, rather than always providing extrinsic rewards. Although external rewards may be associated with immediate learning gains, they are typically countered by decreased levels of motivation for learning; students become motivated by the external reward rather than by learning itself. While praise often fulfills the need for relatedness, generic praises such as “you are so smart” should be used sparingly, as they often lead children to assume that their success is related to a stable trait and thus guaranteed. Educators and parents should provide specific feedback that emphasizes effort and reminds the child that she or he is in control.

As is implied by the multitude and diversity of theories of motivation, there is no “one-size-fits-all” recipe for motivation. Motivation is driven by the unique perceptions of individuals. What one child perceives as controlling, another may perceive as “too open” and unsupportive. One child may see his or her goal as specific and interesting, while another may feel the need to create entirely

new goals. It is thus essential to resist making broad generalizations when describing motivation; it cannot be neatly categorized, but rather must be considered within unique learning and social contexts. Motivation is the underlying force of goal-directed behaviors, and when appropriately supported can help young children develop confidence, an appreciation for both intrinsic and extrinsic motivation, and an appreciation of learning and growth.

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See also Child-Initiated Learning; Curiosity;
Neuroscience and Early Education; Reasoning and
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MOVEMENT EDUCATION

Movement education is characterized as physical education emphasizing fundamental motor skills and the discovery of variations through concepts such as body and spatial awareness. It encompasses a philosophy that is success oriented, child centered, and noncompetitive. Movement education experiences are most critical in early childhood, as they lay the foundation for all facets of movement tasks, whether they are play, work, creative expression, or any other aspect of life requiring movement. This entry provides an overview of the beginnings of movement education and its differentiation from traditional physical education, a discussion of its benefits to children, and a general explanation of its approach.

Overview

Rudolf Laban is generally considered the father of movement education. A dancer, choreographer, dance educator, and director of modern dance and ballet companies, Laban studied movement in its many forms. But it was not until Adolf Hitler's regime forced Laban to immigrate to England that

his work began to gain recognition. In England, he developed a system of analyzing movement through what he termed the elements of time, weight, space, and flow. He also determined that experimentation should be used as a teaching method, and this is the origin of the problem-solving teaching styles synonymous with movement education. Laban and his associates developed his work in English schools. Gradually, his methods extended to Western Europe and then to the United States, where movement education has had its highs and lows but has continued to evolve.

Although movement education is physical education in that learning takes place primarily through the physical domain, it is not physical education as many adults remember it. That is to say, it is not the subject in which any of the following are true:

- The teacher stands in front of the students and tells them exactly what to do and how to do it. (Jumping jacks and sit-ups may surface in the reader's recollections.)
- There is a right way and a wrong way to do every task.
- Only the physical domain is considered.

Instead, movement education

- often uses less direct and more child-centered approaches to instruction,
- allows children to experience success almost every time, and
- involves the whole child.

Benefits to Young Children

Although it is commonly believed that children automatically acquire motor skills as their bodies develop, maturation only means that they will be able to execute most movement skills at a low performance level. Continuous practice and instruction are required if a child's performance level and movement repertoire are to increase. Once a child is able to creep and walk, gross motor (large muscle) skills should be taught just as other abilities are taught. It is by starting with the basic motor skills and experimenting with their myriad variations that children

become comfortable with and competent in their physical abilities. They will later be able to employ these abilities in many facets of life, both functionally and expressively.

Because movement education relies primarily on problem-solving methods of instruction, this content area also contributes to cognitive and creative development. Further, it requires children to interact with each other in situations so that they must take turns, share space, and collaborate; therefore, movement education additionally contributes to social and emotional development. In these ways and others, movement education contributes to the development of the whole child.

Primary Teaching Method

Exploration should be the teaching method most widely used in movement education experiences. Because it results in a variety of responses to each challenge presented, it is also known as divergent problem solving. For example, a challenge to demonstrate crooked shapes could result in as many different crooked shapes as there are children responding. A challenge to balance on two body parts can result in one child balancing on the feet, another balancing on the knees, and still another—who may be enrolled in a gymnastics program—performing a brief handstand.

To employ exploration, the teacher presents children with a challenge (e.g., “Show me how tall you can be” or “Find three ways to move across the balance beam in a forward direction”), and the children offer their responses in movement. The teacher can then issue additional challenges to continue with and vary the exploration (extending the activity; e.g., “Show me a way that you can do the last challenge with your body closer to the floor”). Alternatively, the teacher can issue follow-up questions and challenges intended to improve or correct what was seen (refining responses; e.g., if the teacher has issued a challenge for the children to make themselves as tall as possible and some children remain flat-footed, the teacher might ask, “Is there a way you can use your feet to make yourselves even taller?”).

The primary tools employed in exploration are the elements of movement: space, shape, time,

force, flow, and rhythm. If we liken movement education to the study of grammar, the skills themselves can be considered verbs, while the elements of movement are the adverbs.

As an example, if the locomotor (traveling) skill of walking was being explored, there would be a number of choices regarding how to perform the walk: forward, back, to the side, or in a circle (here the element of space is being used). In addition, the walk could be performed with arms or head held in various positions (shape), quickly or slowly (time), strongly or lightly (force), with interruptions (flow), or to altering rhythms (rhythm).

Too often in the past, physical education was taught “to the middle.” In other words, teachers chose activities that could be handled by children of average ability. Although the system worked well for these children, students who were not as skilled were constantly lagging behind, resulting in a vicious cycle of failure that eroded their confidence and led to more failure. Highly skilled children, on the other hand, were not sufficiently challenged and became increasingly bored.

Exploration allows every child to participate and to succeed at her or his own level of development and ability. In addition to the self-confidence and poise that continual success brings, this process promotes independence, helps develop patience with oneself and one’s peers, and allows the acceptance of others’ ideas. Perhaps most important for young children, exploration as an instructional method in movement education leads children to discover the richness of possibilities involved in the field of human movement.

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See also Physical Education; Play and Early Childhood Education; Playground Structures; Recess; Rough and Tumble Play

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MULTIAGE EDUCATION

Multiage education refers to a classroom in which two or more separate age groups or grades are taught in the same setting. In the United States, this phenomenon, which has also been called “combination,” “multigrade,” and “mixed-age” education, was previously the norm, during the times of one-room schoolhouses. Over the years, following various education reforms, the prevalence of, and public opinion of, multiage education has changed. This entry provides an overview of multiage education, including its history, common arguments for and against its use, and the current state of its implementation.

History

In the United States, prior to school reform in the 1800s, multiage classrooms were the norm; children of various ages studied as a whole group or as separate subject groups. As a result of rapid economic growth, extensive immigration, and the common school movement, which caused a proliferation of organized systems of publicly supported schools, the current grade-centered approach to education began in the 1800s. At the same time, innovators in education called for a child-centered approach focused on developmentally appropriate curriculum, which resulted in the current conceptualization of multiage education.

During the 1900s the work of Lev Vygotsky and other developmental scholars emphasized instruction that extended child knowledge (e.g., instruction within a child’s zone of proximal development). The brief reemergence of multiage education in the United States began in the early 1990s and its popularity appears to have peaked by the mid-1990s. A few states, including Kentucky and Michigan, implemented initiatives mandating the availability of multiage classrooms. Additionally, the National Multiage Institute was established in 1995; it offers graduate-level courses in multiage practices for teachers and administrators.

However, the duration of these state initiatives was limited. Kentucky’s reform was modified 6

years after it started; various services discontinued due to lack of funding, and the number of multiage programs in Kentucky has been decreasing since. Michigan followed a similar trajectory with its initiative: Multiage programs abounded then ceased about 6 years later. Nevertheless, scholars have investigated the advantages and disadvantages of multiage education.

Advantages

The multiage model of education’s value is due to its focus on the process approach to learning. Through this approach, educators seek to teach and understand each individual based on his or her developmental trajectory. The teacher presents broad concepts to students, allowing students to work at their own pace and learning level, instead of pushing through a common curriculum without complete mastery.

Many have argued this child-centered method of teaching increases verbal abilities and overall student motivation due to the targeted opportunities for learning. Research has also suggested children learning in classrooms among peers of varying ages also develop cognitively at a faster rate. Additionally, this type of classroom has been used as a valuable alternative for students at risk for retention or those who struggle to meet standardized testing requirements.

In addition to academic gains, multiage classrooms have been shown to enhance children’s social skills and emotion regulation. Due to the emphasis on cross-age learning, students of differing academic and developmental levels collaborate and teach each other, creating an environment of cooperation, flexibility, and higher self-esteem. These classrooms have been seen to enhance tolerance for individual differences and decrease competition. Researchers and teachers of multiage classes have found greater rates of student obedience, school attendance, and overall sense of community.

Challenges

Despite the potential benefits of multiage classrooms, a variety of difficulties with implementation, training, and buy-in have deterred schools from its use. Educators have expressed concern over the

increased workload caused by preparing lessons specific to children's differing needs. Multiage classroom teachers require in-depth training in assessing students' developmental abilities and knowledge, and providing differentiated instruction. In overpopulated urban areas, multiage classrooms may also be difficult to implement due to disproportionate ratios of students to teachers.

Furthermore, due to the introduction of U.S. grade-level standards, school administrators have been less likely to promote multiage programs due to pressure to educate students according to grade-level standardized tests. Students in multiage classrooms, thus, may struggle to produce proficient test results due to their unfamiliarity with particular curriculum standards. This presents collateral issues with school funding, parental satisfaction, promotion, and student grades.

Parents tend to express concern about multiage classroom instruction with frequent worries that their children will not receive appropriate instruction at the appropriate level (i.e., within their zone of proximal development). Many fear that their older children will be overwhelmingly tasked with helping younger peers, or receive inadequate attention. Finally, some researchers have found little to no evidence that these classrooms foster greater academic achievement when compared to homogeneous grade-level groups.

Current Usage

Despite the conflicting views on multiage education, it still has a place in contemporary education, and research continues to investigate its utilities. However, one needs to look beyond the context of the United States to see multiage education in common practice. Multiage classes are widespread in developing and industrialized countries alike. In most cases, multiage classes arise out of economic necessity rather than as a strategic teaching choice. A variety of current sources demonstrate that multiage education is in place in South Africa, Ireland, Hungary, Peru, Nepal, and Pakistan, for example. The main advantage of multiage education in these contexts is that it creates access to education for more children. Unfortunately, many teachers in

these classrooms are not adequately trained in peer teaching techniques. Nevertheless, it does provide an opportunity for more children to participate in education, consistent with a commitment made by participants in the World Education Forum in 2000 and reaffirmed in 2015 with the Incheon Declaration. Coordinated by the United Nations Educational, Scientific and Cultural Organization (UNESCO), the Education 2030 Framework for Action builds on the global Education for All initiative, which aims to provide quality basic education for all children, youth, and adults.

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See also Cognitive Developmental Theory; Looping; Multiage Spaces; Reading; Teacher Beliefs

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MULTIAGE SPACES

Multiage spaces refers to learning environments that are intentionally designed for groups of children with a range of chronological ages. These include indoor and outdoor areas for learning through play, exploration, and discovery. In multiage spaces, early care and education settings foster children's growth in social, emotional, physical, and intellectual domains within multiage groupings. Programs, schools, or early care and education centers that use multiage groups provide classrooms that are arranged with furniture, materials, and designated areas to focus on meeting children's developmental needs. In recent years, it is less common to see multiage spaces in the elementary school setting. This entry provides an overview of multiage spaces and the purposeful arrangement of space to build on the benefits of multiage groupings, which include continuity of care, integration of curriculum, and social learning.

Overview

Multiage spaces reflect the philosophical stance that children's learning is based on their developmental needs rather than their chronological age. Among children who are the same age, there will be different approaches to learning, different abilities, different interests, and different background knowledge. This requires particular attention to the physical setting and classroom materials to address the unique needs of the learners. Classrooms inspired by Montessori or Reggio Emilia are often characterized as multiage spaces because they are designed for groups of children with a wider span of ages. These incorporate more hands-on learning in smaller groups, with less emphasis on whole-group direct instruction.

Multiage spaces promote social learning among the groups of children. Within the environment, children interact frequently with each other, with the adults, and in small groups. This type of learning environment is arranged to support social interaction, flexible groupings, and peer-to-peer

learning. Rather than traditional desks in rows and segmented use of time and materials, multiage spaces are naturally open and flexible. The space is divided into areas for learning centers, small-group investigations, and consultations with teachers and peers. The focus is on children's developmental needs and age groupings are de-emphasized. Children, spanning a range of ages, work and play together. In a multiage space, they discover and engage with in-depth projects to construct knowledge about the world.

Learning Environments for Multiage Groupings

Infants and Toddlers

Multiage spaces for infants and toddlers allow for smooth transitions between early care and education settings, even within the same facility. Children's development during the first 3 years differs widely. Children reach developmental milestones as individuals. With multiage spaces, it is possible to make decisions based on the needs of the individual child, rather than arbitrary criteria such as a child's birth date. For example, teachers have the flexibility to determine when to move an infant or toddler from one classroom to another. Because the young children spend longer amounts of time in these types of classrooms, the environment is home-like and personalized to the individual children.

In multiage spaces, infants and toddlers have the opportunity to benefit from continuity of care. Continuity of care in a group setting for infants and toddlers occurs when children and care providers stay together for a longer time period, usually the first 3 years. Research has shown the advantages for children to remain with the same adult for a longer period of time. This allows children and caregivers to develop stable, trusting, and consistent relationships.

The learning environments for multiage groups of infants and toddlers have a family-like atmosphere. The comforts and care of a home are combined with experiences that are educational and develop the child's skills and knowledge.

There are different areas to promote movement, soft areas for quiet and calmer activities, and space for personal belongings as well as low, accessible shelves to promote independence. Everyday experiences such as feeding, toileting, and sleeping are arranged with the needs of the different-age children in mind.

The materials within these learning environments for infants and toddlers are not limited for use within a single classroom. The toys, manipulatives, and learning tools can be used throughout a facility as the needs arise. This flexibility in the use of materials is characteristic of multiage spaces. Materials are multidimensional and allow for use in a variety of ways depending on the developmental needs of children.

Health and safety are a primary concern when creating appropriate environments for children who are of different ages and skills, such as mobile toddlers in the same room with infants. Adults must be cautious when selecting materials to ensure that they do not pose any danger, such as a choking hazard. Spaces for groups of the youngest children foster a sense of caring and empathy as the adults and children of different ages play, learn, and interact together.

Preschoolers

Similarly, multiage spaces for preschool-age children accentuate how young children learn. Preschool-age children do not experience the world as segregated into different subject areas. For 3- to 5-year-olds, time, space, and materials are multidimensional. Children learn by making connections to what they already know through play and social interactions. The spaces for multiage groups of preschoolers include a variety of areas for exploration and learning.

Programs such as Head Start often group together children who are ages 3 to 5 years old. Within a Head Start classroom or in any multiage space, the physical arrangement of furniture and materials is focused on how children learn. The use of open spaces and smaller designated areas directs children's learning.

When the curriculum is interdisciplinary and focuses on the development of the whole child, the environment incorporates a variety of opportunities for children to make choices and to construct knowledge. The content of every subject matter is presented and demonstrated in ways that allow for integration. Children are encouraged to interact and manipulate concrete and tangible artifacts, tools, and objects. Children are not confined by rigid rules and expectations for using materials. They learn by the modeling from adults and other children.

This active approach to learning requires spaces that are flexible—to allow for projects that stretch across a table, investigations that occur outdoors, play scenarios that spill from the housekeeping corner into the block area, or in-depth studies with small groups of children who need places to meet and discuss or pore over books. Additionally, in multiage spaces, there is room for play. This means that there is adequate space devoted to accessible storage of props and materials for children to use in imaginative and dramatic play.

Primary Grades

Multiage spaces for children in the primary grades conjure up images of the one-room schoolhouse. Children arrived at the schoolhouse and one teacher managed to provide individualized instruction for a wide range of ages. Often, older students were paired with younger students for guidance and support. Time spent outdoors was as a whole group of children of varying ages. Multiage spaces for school-age children are not as commonplace as they were in the late 20th century.

Contemporary multiage spaces still allow for children's continued learning and development. Just like the preschool learners, children ages 6 to 9 years old rely on active exploration to construct new knowledge by using new experiences to extend and enhance prior knowledge about the world. Within the learning environment, children actively engage with learning centers, hands-on experiences, and projects. The more competent, often older, children serve as mentors to the novice, typically younger, children.

In the primary grades, multiage spaces incorporate learning centers. Learning centers are areas designated for small groups to explore a particular area of study, to use specific materials and to interact with subject matter. Children have access to research materials, technology, and writing tools to independently record their learning. Within a flexible space, the learners can move freely and interact with peers to pursue topics of study.

Role of the Adult in Creating Multiage Spaces

In the multiage space, adults play the critical role of creating a context for learning to happen. The adults arrange the environment, select appropriate materials, allow time for social interaction, and facilitate rich interdisciplinary experiences. All of this preparation occurs with an intentional focus on the individual children and their learning preferences, motivation, and temperament. A main responsibility for the teacher is to be a watchful observer of children and their individual needs. Equipped with knowledge about children's development, the teacher is then able to provide materials to foster growth and to create spaces for exploration of integrated subject matter.

The teacher is responsible for designing spaces that support children's exploration of the physical world as well as foster social interactions. The multiage space is family-like and so all children get to experience being the oldest, youngest, and middle child. The learning environment becomes a safe place to strengthen interpersonal skills of empathy, caring, leadership, and followership. Indoor and outdoor areas are used with multiage groups of learners.

Within each multiage space, adults model encouraging social interactions and facilitate positive and constructive interactions between and among children. Children can observe and participate in resolving real conflicts in the shared quarters. This way, they develop social and emotional skills. Likewise, when there are a limited number of materials available, children have to solve an authentic problem.

An astute teacher is a keen observer of children and intentionally uses the environment to initiate and support these occasions for learning. With careful preparation and guidance from adults, children engage in play, exploration, and discovery. As a watchful observer of children's development and interests, the teacher's role is to prepare the environment to ignite the child's intellectual curiosity.

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See also Infant and Toddler Programming; Montessori Programs and Environments; Multiage Education; Outdoor Play Spaces; Preschool Rooms; Primary Grade Learning Spaces

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MULTIPLE INTELLIGENCES

Multiple intelligences theory (MI theory) was developed by Howard Gardner, a professor of cognition and education at Harvard University. Introduced in his 1983 book, *Frames of Mind*, and refined in subsequent writings, Gardner's theory challenges the views of intelligence as measured by the intelligence quotient (more commonly referred to as IQ) and as described by Jean Piaget's universal stages of cognitive development. Arguing that human intelligence is neither a single entity nor a unified set of processes, Gardner maintains that there are several distinct, relatively autonomous intelligences. Individual intellectual profiles reflect varied configurations of these intellectual capacities.

Basic Claims of the Theory

MI theory presents at least three ideas that are revolutionary to our understanding of intelligence: the definition of intelligence, criteria for identifying an intelligence, and identified intelligences. Gardner defines intelligence as a biopsychological potential to process information that can be activated in a cultural setting to solve problems or create products that are of value in a culture. By considering intelligence as a potential, Gardner asserts its emergent and responsive nature, thereby differentiating his theory from IQ, which views human intelligence as fixed and innate. Whether a potential will be activated depends in large part on the values of the culture in which an individual grows up and the learning opportunities available in that culture. Development of the intelligences is influenced simultaneously by individual biological dispositions, environmental factors, education, and personal effort. These activating forces contribute to the expression of a range of intelligences, from culture to culture and from individual to individual.

In the process of developing MI theory, Gardner considered the range of adult end-states valued in diverse cultures around the world, such as computer programmers, teachers, lawyers, athletes,

scientists, and tribe leaders, to name a few. To identify abilities that support these adult roles, he examined empirical data from sources that had not been considered previously for the purpose of defining human intelligence, including brain function, evolutionary history, special human populations, development of symbol systems, and core operations of intelligences. His examination of these sources yielded eight criteria for identifying an intelligence. Of principal importance to Gardner in developing the criteria was capturing the range of purposes and processes entailed in human cognitive functioning. For Gardner, the criteria developed to identify intelligences are the most original and important feature of MI theory.

To date, Gardner has identified eight intelligences: linguistic intelligence, logical-mathematical intelligence, musical intelligence, spatial intelligence, bodily-kinesthetic intelligence, naturalistic intelligence, interpersonal intelligence, and intrapersonal intelligence. Although linguistic and logical-mathematical intelligences have been emphasized in psychometric testing and school settings, no intelligence in the MI framework is seen as inherently more important than the others. Although significantly independent of one another, intelligences do not operate in isolation. Human activity normally reflects the integrated functioning of several intelligences.

MI Theory and Early Education

MI theory can serve as a conceptual framework for implementing developmentally appropriate practice (DAP) in early education. MI theory defines intelligence as a potential; the driving force of DAP is to inspire all children to achieve their highest potentials. MI theory contributes to the implementation of DAP in at least three ways: knowledge of children, curriculum, and teaching and assessment.

Knowledge of children in the MI framework goes beyond describing general cognitive, social, emotional, and physical growth to identify more specific developmental potentials in a range of domains, such as math, arts, science, and music.

Development from MI's perspective is domain specific—young children's intellectual abilities are tied to specific bodies of knowledge and skills, and they are not based on general cognitive structures that operate across domains. Because each intelligence exhibits particular problem-solving features, information-processing capacities, and developmental trajectories, the level of a child's development often varies in different areas. Of critical importance for DAP is to understand each child's intellectual profile—his or her proclivities, strengths, vulnerabilities, and interests—and provide educational experiences that support his or her unique potentials.

With regard to curriculum, MI theory stresses the importance of exposing young children to a wide range of content areas, including literacy, math, and science as well as music, fine arts, performing arts, and movement. Limited exposure decreases possibilities for young children to express themselves with diverse materials and develop their potentials to the greatest extent. It also reduces the likelihood of discovering interests and abilities that parents and teachers can nurture at a young age. An MI-based approach to curriculum invites teachers to use multiple entry points to promote children's in-depth exploration and understanding of topics and concepts essential to early learning and development.

For teaching, MI theory emphasizes building on children's particular strengths and using them to build bridges to other areas of learning. In contrast to traditional approaches that focus primarily on children's deficits, teachers in MI classrooms attend equally to areas in which a child excels. Teachers invite children to participate in learning tasks that further develop their strengths in ways they are motivated to pursue. They also give children opportunities to use their strengths as tools to express what they have learned. Teacher support for children's strengths contributes to a positive self-image and an increased likelihood for success in other learning areas. Effective teaching requires appropriate uses of assessment. To facilitate the identification of children's strengths, a wide range of abilities is sampled in the assessment process.

Since the publication of *Frames of Mind* in 1983, MI theory has become one of the most influential theories in the fields of cognitive psychology and education. It emphasizes the concepts of diversity, equality, possibility, richness, and expansion. It affirms beliefs about children as individuals that many educators hold and practice, and provides them with language to describe children's distinctive intellectual profiles. It calls for mobilizing resources to help individual children reach their highest potentials and to enrich their contributions to society.

Jie-Qi Chen

See also Developmentally Appropriate Practice; Integrated Approaches; Integrated Curriculum; Intellectual Assessment; Intellectual Diversity

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MULTIPLE METHODS OF ASSESSMENT

Perhaps more than any other period of development, early childhood relies on a wide range of assessment methods. The use of a specific method is driven by the purpose of the assessment, the availability of assessment tools, and the training demands for the individual completing the assessment. General consensus in early childhood education is that assessments should rely on multiple methods when possible, and that these methods should be used in ways that approach the child in

the most authentic way possible. Multiple methods provide the greatest flexibility to describe this period, while assessing children in naturally occurring environments minimizes the child's test burden (or even awareness), allowing a more valid view of the child. While a full discussion of assessment methods is beyond the scope of this entry, the following discussion does provide an overview of some of the most common assessment methods.

General Methods

The Formal–Informal Continuum

Typically, formal methods are those that are the most intrusive to children while informal methods are less obtrusive, or completely unobtrusive as children may not even be aware they are being assessed. This continuum, while often cited, is potentially misleading, however. Many infer that formal methods are by default more valid and useful, and informal methods lack such characteristics. In truth, any assessment method can yield psychometrically sound results based on how well it is designed and used.

Direct Assessments

Direct assessments specifically engage the child in the assessment process. Standardized testing in schools is the most common example. However, direct assessment in young children differs in substantial ways from this image. First, while older children may be expected to complete a paper-and-pencil test (though this may now be administered via technology) young children are seldom assessed through direct assessment without an adult assessor. In addition, for young children, test materials often include objects for the child and assessor to use in posing and answering items.

Indirect Assessments

Indirect assessments are those where areas of interest are assessed without directly engaging the child. While the child is the focus of the assessment, he or she is not specifically involved in the assessment itself. There are several forms of indirect assessment.

Checklists and Ratings Assessments

Checklists and ratings-based assessments rely on parent or teacher reports of a child's behaviors, skill, and so on. These do not require the child to be under observation or even present during the assessment. As a result, these assessments have no impact on the child, and often can be completed quickly by a range of potentially important reporters of the child's development. These assessments typically (but not always) involve general ratings of children's tendencies or likelihoods of showing certain skills or characteristics. Checklist and rating scales are very similar, and the terms are often-times used interchangeably, although there is a key distinction. Checklist scales usually are marked using a dichotomous scale (e.g., yes/no) while rating scales generally use a scale, typically a Likert scale, to allow for finer scoring on each item.

Observational Assessments

Indirect assessment can also occur through observational assessments. Here, the child is observed and assessed in a naturally occurring or structured setting using a predetermined set of items and scoring criteria. The child's behavior is not specifically guided or elicited as in direct assessment, but the environment may be more or less restricted to highlight the target(s) of the assessment. For example, a child's physical development may be assessed through observational methods when she is on the playground.

Portfolio Assessment or Review

Early educators often develop and maintain portfolios for each child to mark the child's learning and development. While this work is directly obtained from the child, the collection, and subsequent rating of the portfolio, is indirect in that the child is not present. Portfolio assessments are powerful in that they show the child's work, generally in context. However, collecting items and curating them are functions of the early educator, and so reflect the child's learning and development through the teacher's interpretation of how to show it.

Key Differences Between Assessment Types

Regardless of the assessment method, obtaining valid and reliable data requires the use of psychometrically sound tools by assessors who are trained and skilled in their use. Different types of assessment require differing levels of training and experience to administer. Direct assessments of children often require specialized training to obtain the best data. Indirect methods often rely on rating scales that require clear definition for assessors (called raters for these assessments) but often require less formal training. In addition, direct assessments require involvement and time from both the child and the assessor, making them more time intensive than rating scales, which can be completed by the assessor generally with minimal time demand.

A wide range of methods is available for assessing young children. Each presents strengths and limitations, but all must be judged on their psychometric strength and their ability to achieve the purpose for which they are intended. Choice of methods may also be influenced by the language and cultural background of children (and assessors) to ensure they are culturally relevant and maintain psychometric strength when used for diverse populations. Likewise, some methods may be less appropriate for children with disabilities.

Kyle L. Snow

See also Assessing Children for Disabilities; Assessment, Limitations of; Authentic Assessment; Developmental Assessment; Standardized Assessment

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MULTIRACIAL FAMILIES

Multiracial families are a growing demographic in American society. These are families where the biological parents come from different racial or ethnic groups. Multiracial children also include adopted children whose biological parents are from two or more races. Some of these families are single-parent families and some grandparents are raising multiracial grandchildren. According to a Pew Research Center study, about 15% of new marriages in the United States in 2010 were between spouses of a different race, more than double that in 1980 (6.7%). Moreover, 35% of Americans claim a member of their immediate family or close relative is currently married to someone of a different race.

Multiracial children are enrolled in early childhood programs throughout the United States. For a variety of reasons, including societal myths and prejudices, and a lack of accurate information about multiracial families and children taught in college preparation programs, early childhood teachers, providers, and experts often lack the knowledge needed to work effectively with families made up of more than one race or ethnicity. Many college multicultural classes and early childhood diversity textbooks do not cover this unique population. This entry describes multiracial children and their families, and provides information and best practices for early childhood programs to work with such families.

Multiracial Families in the United States

There have always been multiracial families in America. In fact, in the country's early history, interracial couples and the children they produced were considered "new Americans" because they

symbolized a rejection of European racism and prejudice. However, European racism soon spread to the New World, and the institutionalization of slavery in America solidified the belief that races should not mix. One result of this ideology was the creation of a pervasive mythology of moral, biological, and intellectual inferiority of mixed-race progeny that still exists today to some extent. In many states, anti-miscegenation laws persisted until the 1967 Supreme Court decision in the case of *Loving v. Virginia*.

The contemporary increase in the number of multiracial families in America began as a result of the civil rights movement. One result of this increase was the creation of an active multiracial moment from the late 1970s to early 1990s. A central goal of the movement was to change the Office of Management and Budget (OMB) process for collecting racial information to enable mixed-race children to choose more than a single-race identity on Head Start, Individuals with Disabilities Education Act, and other school-related forms. Today multiracial families include any combination of the federal OMB categories, such as Hispanic and Native American, Asian and Black, and so on, although African American and White families are still the most obvious and most controversial.

Multiracial Identity Development

A central issue that all multiracial parents must address is the racial identity of their children (unless the family is from a country like Brazil, where mixed-race identity is an accepted norm). Historically, children of a Black parent and a White parent in the United States were expected to identify as Black; other racial and ethnic combinations followed the rule of hypodescent, under which multiracial individuals are expected to identify with the lower-status race. However, today there is a growing belief by researchers, psychologists, and child development experts that multiracial children should embrace their full multiracial identity, and that this developmental process should begin in early childhood. These experts argue that even children whose parents want them

to identify with a single race (usually their minority race) should understand, accept, and embrace their mixed heritage.

Several theorists have studied racial identity development in single-race children. While this differs somewhat, depending on the child's race/ethnicity and physical characteristics, and their social contexts, in general it follows a sequential developmental process, with the child reaching a mature sense of racial/ethnic identity between 9 and 11 years of age. However, for multiracial children, the process is more complex, and more susceptible to contextual cues (for example, a child of more than one race living with a single, White mother or White grandparents, and attending an all-White early childhood program).

In several of the multiracial developmental models, one of the stages involves the child identifying with one of his backgrounds (usually the minority background) and rejecting the other parent's background. When this occurs, the parent who is rejected needs to be understanding and supportive. For multiracial children to progress successfully through each specific stage, they need to have concrete exposure to all parts of the child's background, be given opportunities to explore various conflicts and contradictions, and have hands-on opportunities to explore mixing of colors, textures, sounds, and other constructs. They also need to be around people who continually affirm that being mixed is okay and natural. The goal of this developmental process is to achieve a full, integrated identity, which is usually achieved at the end of elementary school or later.

Teachers working with preschool-age children must fully understand both Jean Piaget's preoperational stage (ages 2 to 7) and Erik Erikson's stages of autonomy versus shame and doubt (ages 1 to 3) and initiative versus guilt (ages 3 to 6) to guide multiracial children through this important developmental process.

Changing Paradigms

To work effectively with multiracial children and their families, early childhood staff need to radically

change their views of diversity, and challenge traditional diversity paradigms and mythologies about multiracial identities. It's no longer White or Black, Asian or Hispanic, brown or blue eyes, curly or straight hair. Race is no longer understood to be determined by a specific, fixed set of physical characteristics. There are no labels or categories; there are traditions, ancestors, combination, values, and dispositions. For the multiracial child the challenge is to be able to (1) integrate all the parts into a whole, including in many cases integrating a minority and majority perspective, and (2) continually respond to uninformed children and adults who make comments to the child such as, "A White man dropped you off in the morning and a Black woman picked you up, so what are you?" In predominantly White programs, multiracial children are viewed as a minority; however, in predominantly minority programs, they also may not fit in.

The Role of Early Childhood Staff

All staff in an early childhood program, including specialists and psychologists, need to find ways to support each multiracial child's healthy identity development, and sensitively follow the guidance of the parents in this process. Because physical cues are so important during the preoperational stage (2 to 7 years old), young children notice physical differences: skin color, hair color and texture, and eye color and shape. Thus young children are naturally aware of physical differences. Early childhood staff therefore need to proactively address issues of racial and ethnic diversity in their program, including multiracial children.

Because young children often struggle to resolve conflicts, follow rules, and function prosocially, issues of race, ethnicity, and identity may come up in conflicts between them. Thus teachers and professional staff need to respond sensitively and supportively.

Unfortunately, the current approach to diversity in early childhood programs reinforces a single-race approach: books about Asians, Blacks, and Hispanics; doll sets where both parents and all the

children look the same; and some multicultural activities that require children to "match" their phenotype with that of their parents. Thus early childhood programs must (1) continually challenge the single-race approach to diversity that is pervasive and normative in these programs and (2) challenge their own views of the racial and ethnic diversity of American families and children.

Specific Ideas for Working With Multiracial Children and Their Families

Multiracial children are like all children, and therefore most advice for working with them is the same as for working with other children. However, they do have unique needs that must be sensitively and supportively met. Some additional ideas include the following:

- Give multiracial children a name to describe their unique identity, and to help them talk to other children. For young children, the word *brown* works well; for older children, *biracial* or *multiracial* is helpful. Unfortunately, multiracial children often experience peers—and even adults—who express confusion about their identity.

- Provide books and other curricular materials that celebrate multiracial families. If the program or library does not have any, insist that they get some. With today's technology, it is also very easy to create books. Make sure that other displays in the program—pictures, doll sets, figurines, and so on—always include multiracial and multiethnic families, and intercede anytime someone questions the validity and naturalness of these families. When buying doll sets, family sets, and so on, mix some of them up; do not break all of them into racial and ethnic families and groups. Put pressure on manufacturers to develop books, dolls, and people with a large array of diverse physical characteristics that don't reinforce racial and ethnic stereotypes.

- Encourage parents in multiracial families to fill in "two or more races" on the federal forms

required by the program. Make sure the forms used provide this option (it is required by law).

- Provide activities, discussions, interactions, and exercises that focus on children's physical characteristics—skin color, hair color and texture, eye shape and color—but do not label or group children by race or ethnicity, and do not have them match their characteristics with parents and siblings, or with prototypes of various races.

- For older children (e.g., 6 to 8 years old) provide role models and historical characters who are multiracial: Frederick Douglass, the ballet dancers Marjorie and Maria Tallchief, John Audubon, Ralph Ellison, Bob Marley, and others.

- Provide parents with all sorts of resource materials to help them negotiate the challenges of raising mixed-race children in a race-fixated society.

- Be sensitive to unkind words, harassment, and bullying toward multiracial children by other children. This behavior can come from children of any race.

- Be sensitive to unkind words toward multiracial children from adults, including parents, teachers, and other staff. As has already been addressed, many people (including those from other countries) have negative views of parents who cross racial—and other—lines to marry, and they sometimes take this out on the children.

- Do not match classroom visitors or people you visit in the community with children in the program by race or ethnicity. This reinforces a single-race view of diversity.

- Respond to each parent and child as an individual. Don't make assumptions about their racial or ethnic identity. And be supportive. All families of young children struggle with a variety of conflicts and challenges. Multiracial families simply have one additional challenge—one that the program needs to address positively and supportively, and not make worse.

- Make sure that any diversity training, curricula, and programs that teachers and other staff

attend include multiracial children and families in their content, and affirm the right for these children to develop a full, multiracial identity. This applies to any multicultural college classes that teachers are required to take to improve their qualifications.

Francis Wardle

See also Adoption; Cultural Diversity; Diversity in Early Childhood Education; Early Childhood Teacher Education; Equity and Equality in Early Childhood; Family Partnerships

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Music

In the 1990s, a survey of music teachers published in *The Psychologist* reported that over 75% believed that a special talent was needed in order to learn music. However, in contrast to this “folk psychology” view, the past two decades of neuroscientific research have generated findings that starkly contradict such a belief that musical ability is confined to a small section of the population. For example, when modern imaging technologies have been used to investigate how the brains of newborn infants respond to music, it is found that neonates have a sense of timing and beats (essential for the recognition of sound sequences in speech and music) and can respond to whether a melody is “in-tune” (consonant) or “out of tune” (dissonant). Newborns are also able to distinguish musical intervals (the differences between two pitches) and are sensitive to the kinds of harmonic structures (the combination of pitches) found in Western music.

This body of neuroscientific and related psychological evidence demonstrates that each human is born with the prerequisites needed to learn, make, and create music, and that musicality is an inherent component of human design in a way similar to, for example, the trait of bipedalism. Indeed, the fetus is capable of hearing throughout the final trimester inside the womb and so enters the world at birth with already significant experience of the maternal sound world.

This naturally raises questions as to why, in the light of the theory of evolution, humans have developed this general biological ability to make music, which, unlike bipedalism, does not seem to produce such an obvious benefit with regard to the

survival of the human species. The question of the relative usefulness or uselessness of music is pertinent in our determination of whether it has a core place in formal education, or whether it should be a largely extracurricular and perhaps solely pleasure-based activity.

In answering this question, the current evidence suggests that musical behaviors are widely represented in the brain, that learning musical skills physically restructures multiple areas of the brain by developing synaptic connections, and that engaging systematically in active music making over time appears to enable this more than any other human activity. Moreover, studies of other aspects of children's development suggest that there are potential increases in IQ measures, at least in the short term, with longer benefits evidenced in working memory, reading skills, spelling, foreign language learning, spatial skills, self-regulation, empathy, confidence, and sense of being socially included. This entry seeks to provide an overview of the nature and significance of children's early musical development and how this can be nurtured by appropriate educational strategies in order to provide benefits that are musical, cognitive, emotional, and social.

Benefits of Early Music Education

The most recent research on the benefits of learning music reveals that they can be lifelong and also places particular importance on the early years. During early childhood the brain undergoes enormous synaptic development that is unmatched in later life and the brain has a high degree of plasticity, that is, malleability to environmental influences. Many studies report that whether the child starts learning music before or after age 7 makes a difference with regard to several cognitive outcomes. For example, the corpus callosum, the nerve tract that connects the left and right hemispheres of the cerebral cortex, is found to be thicker in musicians who have started learning at age 7 or before; the ability to recognize melodic tones and produce accurate rhythm is stronger; and the ability to label heard pitches accurately on

a musical scale (termed *absolute pitch*) is more likely if you begin studying an instrument that needs tuning (such as a violin) before the age of 7. A recent overview of over 75 studies reported that sustained instrumental practice by children produces neurological changes associated with specific sound-related cognitive tasks.

What makes engaging in rich musical experiences a particularly fascinating opportunity in the field of early childhood education is that there appears to be no lower age limit at which to begin. For example, the Italian music educator Johannella Tafuri conducted a detailed longitudinal study of weekly music activities with mothers and their children that spanned 6 years and that began pre-birth when the mothers first attended the local conservatoire to begin a specially designed music program. She reported that participant children became much more advanced musically than expected.

In another early intervention study, 6-month-old babies were randomly assigned to groups that experienced music education inspired by Suzuki, had free play while listening to Mozart, or had no special music input. When all the babies' development was measured 5 months later, it was found those in the Suzuki-based group were significantly more advanced in their musical behaviors and also in their emotional, social, and communicational skills compared to the others, despite all babies initially being assessed at the same levels of development. It was significant that just hearing classical music did not produce any distinctive measurable benefits. The popular myth that listening to Mozart (or classical music in general) improves the intelligence of babies has been refuted in many studies, including by the researchers of the original, misinterpreted "Mozart effect" study.

However, although there is no general effect, music listening is reported to bring specific benefits, such as improving the resting condition of preterm infants, mitigating cognitive dissonance (discomfort caused by holding conflicting cognitions simultaneously), ameliorating pain in hospitalized children, and supporting visual acuity and cardiovascular function. Although listening to

music per se does not make children more intelligent, active and sustained participation in music making and in the learning of musical skills can produce numerous cognitive, emotional, and social benefits.

It is perhaps noteworthy that, before the invention of recording technology, the pleasure of listening to music—which is reported to stimulate the same evolutionarily critical brain regions as the cravings of sex and food—was inextricably tied to the act of performing, something that is still witnessed in tribal cultures around the world. Our Western culture is historically and prehistorically unusual in its conceptual separation of the act of performing from the act of listening.

Musical Interactions Between Parents and Young Children

Several ways in which active music participation can be experienced are already part of the "repertoire" of instinctual interaction between infants and their main caregivers, although parents rarely recognize these as a form of musical education. In diverse cultures around the world, parents have been found to speak to babies in particular ways that have distinctive musical features, such as exaggerated melodic contour, a prevalence of musical intervals that are common to the world's genres of music, and wide variations in vocal loudness. This "infant-directed speech" (also known as "motherese" and "parentese") accentuates the prosodic features of language (pitch and rhythm). Similarly, "infant-directed singing" tends to be higher in pitch, slower, and with exaggerated emotional features compared to normal singing. These features of parental voicing appear to be tuned to the ways that the brains of newborn infants are wired to comprehend.

Moreover, computer-based analyses on the vocalizations of babies with their mothers indicate that the mother and the baby engage in a form of musical conversation: taking turns with each other, and responding to the musical cues in each other's voices. In recognition of their powerful role in shaping such human–infant communication,

mothers have also been described as the first “mentors” of their children’s singing.

Furthermore, parents commonly play musical games with their infants, such as rocking or bouncing them rhythmically. Among the new findings on the effects of music on babies is the finding that bouncing babies to a regular beat (as opposed to doing random, irregular bounces) is likely to make the babies spontaneously more cooperative as a result and to an unprecedented degree. It has also been reported that 10-month-old babies spontaneously try to adjust their own movements (such as “jiggling along”) to match the beat of a rhythmic song that they are hearing. Indeed, in humans of all ages, it is found that simply hearing rhythmic music activates the motor regions of the brain; thus, instead of rhythmic engagement with music being thought of as something that humans need to “study,” it is perhaps better to consider this as a naturally developing response to sufficient and appropriate musical stimuli that can be nurtured.

Biological and Instinctual Bases of Music

Music is one of the earliest known forms of human cultural expression. According to evolutionary psychologist Robin Dunbar, from the University of Oxford, there is evidence that humans made music 500,000 years ago, presumably by means of vocal and percussive instrumentation. In contrast, speech is reported to have appeared only 200,000 years ago, and evidence is accumulating that instead of music being something on top of language (as suggested by one eminent psychologist), humans developed speech from their musical behaviors. In a similar way, a baby’s linguistic learning evolves from musical components of speech to verbal comprehension, and it is recognized that the neural networks for music overlap those of language. As mentioned earlier, musical activity in early childhood also supports parent–child interactions, as well as pro-social group relations in general.

Due to the biological and instinctual bases of music making, it is therefore important for any

form of early music education to build on these preexisting and naturally emerging abilities. Music education need not be thought of as simply musical instrument instruction, nor solely group singing, although both can be significant in the musical lives of children. Ideally, before children embark on formal music learning, such as in the sense of structured study, they should be encouraged to continue to be active music makers, building on their propensity to create and re-create musical artifacts.

Early Opportunities for Musical Activity

Children around the ages of 2 and 3 years are able to learn simple songs from their maternal culture, but they will also create their own versions, borrowing and adapting preexisting elements, improvising lyrics and musical features, and composing in real time as they explore, develop, repeat, and master elements of their experienced sound world. They are also programmed to “notate” such experiences if given the opportunity, such as by making marks that symbolize their sonic experiences. Musical notation is usually driven initially by young children’s sensorimotor experience, the physical “feelings” associated with making sound, such as banging a drum as an “action equivalent” of the motor behavior.

Invented notations typically will first indicate one perceived musical dimension (such as pitch or loudness) rather than several, which comes later. Such activities allow the young child to expand his or her musical understanding and build repertoire and musical vocabulary, which can form a positive foundation for subsequent musical learning that is more structured and shaped by systematic adult intervention.

As a baby turns into a toddler and a toddler into a preschooler, further opportunities arise for the development of musical skills. There are a variety of well-established examples of music education methods for children that are both structured and age appropriate, developed in various countries such as the Kodaly method in Hungary, the aforementioned Suzuki method in Japan, the Orff approach in Germany, and Musiikkileikkikoulu (“music playschool”) in Finland. Although these

methods are all different in their cultural origins, they share a child-centered approach where musical skills are built on aurally, experimentally, and playfully. Such music education is thus motivating and enjoyable for a wide range of children under school age.

Also, related to the earlier comments on invented notation, to focus music instruction on learning to play from standard notation is generally considered unsuitable for most young children, for the reason that it is teaching music “backward”; just like children first learn the language aurally and verbally before proceeding to read written text, musical development should follow a similar pathway of sound before symbol.

Overall, it seems clear that early years music educators should recognize the power of music, both as a central feature of a child’s basic human design, but also as a means of nurturing other aspects of the young child’s development. Music is important in its own right, but it will also contribute to physical, cognitive, social, and emotional development where children are provided with rich opportunities for sustained and active musical engagement.

*Liisa Henriksson-Macauley
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See also Art; Arts Integration; Creativity; Curriculum and Early Childhood Education; Neuroscience and Early Education; Theater

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MUTUAL REGULATION MODEL

Under the mutual regulation model, infant–caregiver meaning-making processes are a central mechanism governing both adaptive and maladaptive child outcomes. This view has two central tenets. First, infants, and adults as well, must make nonverbal biopsychological as well as nonverbal “meaning” about themselves with regard to the world of people and things. For infants these meanings coalesce in a rudimentary “biopsychosocial state of consciousness” that shapes their ongoing engagement with the world. To fail to make meaning is a psychic catastrophe. Second, infants and their engagement with the world are best understood from the perspective of open dynamic biological systems. As open systems, infants must constantly gain energy and meaningful information to maintain their organization and to increase its complexity and coherence—that is, to grow (Tronick, 2007).

The hypothesis behind the mutual regulation model is that these tenets are fulfilled by the operation of the infant–adult communication system, a dyadic mutually regulated system made up of two subsystems, infant and adult. In this dyadic system, emotional, behavioral, and biopsychological messages are exchanged between the partners about their intentions, expectations, and needs. This dyadic system for the infant scaffolds his or her engagement with the world of people, things, and themselves, and consequently their gaining of energy and meaning and continued existence and growth.

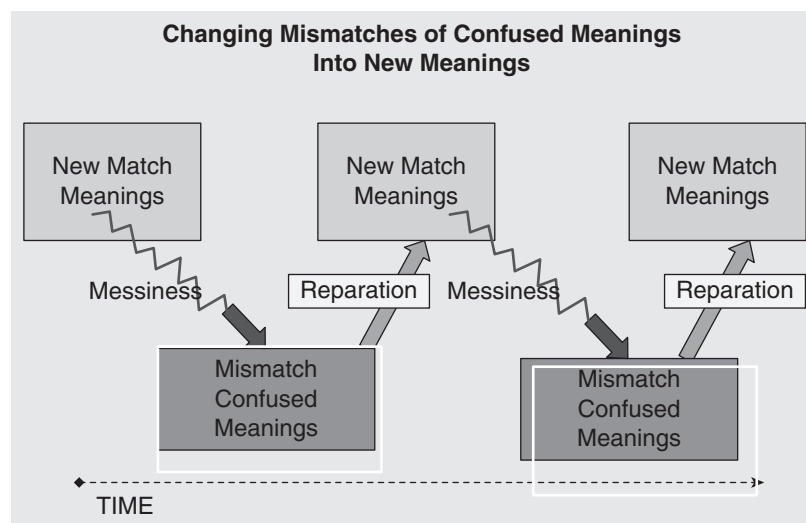
In the mutual regulation model (MRM), there is an exchange of intentions, meanings, and relational goals. It is a communicative system that is

mutually regulated. This is in contrast to early conceptions of the infant's mind: William James described the infant's world as "blooming, buzzing confusion," and John B. Watson said the infant's mind was a blank slate. During early work on the model, researchers surprised by the orderliness of infant-mother interactions used an analogy to the dancing of Fred Astaire and Ginger Rogers. The Fred-and-Ginger model also held that the exchange was made up of long periods of mutual gazing, positive vocalizing, and positive affect. Further research showed that a better analogy is to when Jennifer Grey and Patrick Swayze first begin to dance together in *Dirty Dancing*. Their dancing is made up of missteps, bumps against each other, tries, apologies, retries, brief match-ups, and missteps yet again. Thus the typical infant-mother "dance" is actually quite messy: It moves from coordinated, synchronous, matching meaning or intentional states to mismatched states and back to matching intentional states. The process, which can be called the process of reparation, is jointly carried out by the infant as well as the mother. The rhythm is match-mismatch-reparation, and when it goes well dyadic states of consciousness emerge, dyadic states of shared meaning (see Figure 1).

Interactive messiness emerges for many reasons, such as the partner's waning of attention or change of intentions, the tenths of a second speed of the interaction, and the infant's immaturity. Moreover, the infant at early stages of development makes meaning without language or symbols but with behavior and biopsychological processes, whereas the adult primarily uses language and symbols along with other processes. In some way the infant and adult can be thought of as two different species trying to communicate. To the extent that the communication works it is likely because adults still utilize infantile biopsychological processes to communicate and these are not completely overridden by language. Thus for whatever reasons the process of creating shared meanings is daunting; messiness is an inherent quality of infant-caregiver exchanges.

Research using micro-temporal analysis of videotaped interactions found that interactive mismatches were repaired the next interactive step 70% of the time at a reparation rate of every 3 to 5 seconds. Of course, the new matches were quickly followed by mismatches and those by the reemergence of new matches. The match-mismatch-reparation process was continuous but

Figure 1 The Process of Reparation/Creation of Meaning



led to the co-creation of new meanings. Further work indicated that mismatches are characterized by negative affect, stress, and dysregulation while matches are associated with infants' positive affect and engagement.

From the dyadic systems perspective of the MRM the reparation of interactive mismatches is essential for growth and is the key process for making new meanings. A paradigmatic example of creating new meanings is the infants' learning to play a game like peek-a-boo, which is analogous to, indeed no different than, the infant acquiring familial and culturally appropriate ways of being together with another person. The game and the being together reiterated time and time again and they are social and "arbitrary" or historical determined patterns. The infant learning peek-a-boo engages in bit-by-bit reparatory process of changing interactive errors (failing to respond, missing a cue, looking away too soon) into a coordinated dynamic game which, over months with repetition, comes to resemble what Jerome Bruner refers to as canonical form of the game, a form known to the adult. The same bootstrapping process underlies infants' demanding task of making sense of the unique cultural context into which they are born, a world that is historical, arbitrary, subtle, and contextualized.

In their world, infants must learn culturally specific ways of being with others, which likely demands the totality of infants' biopsychosocial capacity for meaning-making processes. Take one example of which there are many. Among the Gusii, a community of people in western Kenya, mothers look away when infants get too excited in face-to-face interaction. The looking away presages strict cultural rules about who can gaze at whom and with what emotion. The pattern is exactly the opposite of patterns in the United States where mothers increase the intensity of the interaction when mutual gaze is established. But think of both patterns as "games" that the infant eventually comes to know and make meaning out of via reiterated, messy interactive processes of reparation. Over time, with reparation the messiness is resolved, the games

are learned, and there is greater complexity and coherence in the interaction and the infant's state of consciousness.

Ed Tronick and Marjorie Beeghly have hypothesized that developing a successful reparatory history with a specific person via iterated interchanges such as those in peek-a-boo games or face-to-face play, whatever its cultural form, has positive developmental effects. It leads to an implicit knowing by infants that "*we* can repair mismatches" and to a sense of mutual trust. With the accumulation of successful reparations, infants come to know that their dysregulated emotional state and sense that "something is wrong" can be transformed into a positive state and concomitant feeling that "things are right," at least with this person. It generates attachment to other. Likely this process contributes to infants' emergent sense of agency and mastery (Beeghly & Tronick, 2011).

Moreover, the infant develops a positive mood, a positive affective core, and sense of well-being out of the iterated moment-by-moment experiences of positive affect. With this internalized positive affective core the infant, when engaging new people or situations, feels positive about a yet-to-be known engagement. Thus the moment-by-moment exchanges build up a kind of robustness or resilience. Infant moods in effect are Janus like; they, in an affective rather than cognitive way, bring the past into the present while they simultaneously bias expectations about the meaning of the about-to-be-experienced future.

When reparatory processes fail there are problematic outcomes. The face-to-face still-face (FFSF) paradigm illustrates the dramatic effects of reparatory failure. After a period of typical face-to-face play the adult takes on a neutral poker face and though looking at the infant refrains from touching or talking to the infant. The still-faced adult experimentally creates a prolonged dyadic mismatch. Following the SF in a reunion episode the caregiver resumes her normal interactive behavior, and reparation is again possible. The still-face with nonverbal infants generates infant solicitations, anger and distress, sadness and withdrawal. Older

verbal children may ask “what are you doing?” and demand that their mothers “talk to me.”

During the reunion episode there is a carry-over of negative affect and rebound of positive affect. The children display approach and avoidant behaviors, as the dyad attempts to repair the mismatch. In simulations of the still-face with adults there are similar reactions—anger, sadness, helplessness—even though there is no deception and the participants are fully aware of what is happening. In dyads with chronic reparatory problems we hypothesize they lead to an implicit knowing by infants that “we can’t repair mismatches,” “you cannot be trusted,” and “I am a failure.” Such reparatory failures can be seen in dyads with a depressed or traumatized parent or infants with medical problems such as prematurity. This sense of failure derails an infant’s sense of security and leads to an insecure attachment relationship.

Messiness in interactions and dyadic reparation are relevant and dynamic processes over the life span. John Gottman and Janice Driver (2005) argue that in adult couples, the experience of reparation (e.g., recovering from an argument) is fundamental to healthy robust relationships, in contrast to simply having smooth getting-along interactions per se. As argued by Tronick and Beeghly, in the clinician–patient relationship reparation of failure is foundational for building a strong therapeutic alliance. For young children who are continuously confronting new information and trying to make meaning of it, that is creating new and familial and culturally appropriate ways of being in the world, allowing for messiness and scaffolding its reparation is fundamental to their successful growth and development.

Ed Tronick

See also Determinants of Child Development; Emotional Development; Infant–Parent Relationships; Neuroscience and Early Education; Parenting Effects on Child Development

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N

NATIONAL ASSOCIATION FOR THE EDUCATION OF YOUNG CHILDREN

The National Association for the Education of Young Children (NAEYC) works to ensure that all young children, birth through age 8, receive high-quality care and education. NAEYC members include child care professionals; infant, toddler, preschool, kindergarten, and primary teachers; center directors; primary school principals; college educators; trainers and mentors; policy makers; advocates; families; and others interested in the well-being of young children. NAEYC sets research-based standards to guide professional preparation and practice. The association provides numerous resources to help early childhood professionals and advocates for enhancing early childhood program quality; improving the professional development, practice, and working conditions of program staff; and helping families learn about and understand the need for high-quality early childhood education. Through position statements, work with other organizations, and its national voluntary accreditation systems, NAEYC promotes excellence in early childhood education for all young children from birth through age 8. This entry provides an overview of NAEYC's mission, programs, resources, and rich history, which is intertwined with the history of the early childhood field.

NAEYC's Guiding Statements

NAEYC's vision statement is that "all young children thrive and learn in a society dedicated to ensuring they reach their full potential" (NAEYC, n.d.). Its mission statement supports this vision:

NAEYC promotes high-quality early learning for all children, birth through age 8, by connecting practice, policy, and research. We advance a diverse, dynamic early childhood profession and support all who care for, educate, and work on behalf of young children. (NAEYC, n.d.)

The association has adopted a code of ethics for those working with young children based on these core values (NAEYC, n.d.):

- Appreciate childhood as a unique and valuable stage of the human life cycle.
- Base our work on knowledge of how children develop and learn.
- Appreciate and support the bond between the child and family.
- Recognize that children are best understood and supported in the context of family, culture, community, and society.
- Respect the dignity, worth, and uniqueness of each individual (child, family member, and colleague).
- Respect diversity in children, families, and colleagues.

- Recognize that children and adults achieve their full potential in the context of relationships that are based on trust and respect.

NAEYC's work is based on these core beliefs (NAEYC, n.d.):

- *Excellence and Innovation:* We are imaginative risk takers willing to challenge assumptions while being accountable to our mission and fiscally responsible.
- *Transparency:* We act with openness and clarity.
- *Reflection:* We consider multiple sources of evidence and diverse perspectives to review past performance, note progress and successes, and engage in continuous quality improvement.
- *Equity and Opportunity:* We advocate for policies, practices, and systems that promote full and inclusive participation. We confront biases that create barriers and limit the potential of children, families, and early childhood professionals;
- *Collaborative Relationships:* We share leadership and responsibility in our work with others. We commit time and effort to ensure diverse participation and more effective outcomes. We act with integrity, respect, and trust.

Based on this vision, mission, values, and beliefs, the organization adopted five priorities and goals in 2014 to guide the organization's efforts (NAEYC, 2014).

Strategic Priority 1: High-Quality Early Learning

Goal: Children birth through age 8 have equitable access to developmentally appropriate, high-quality early learning.

Strategic Priority 2: The Profession

Goal: The early childhood education profession exemplifies excellence and is recognized as vital and performing a critical role in society.

Strategic Priority 3: Organizational Advancement

Goal: NAEYC is a highly valued, credible, and visible organization.

Strategic Priority 4: Organizational Excellence

Goal: NAEYC reflects excellence in all aspects of organizational health and vitality.

Strategic Priority 5: Leadership and Innovation

Goal: NAEYC cultivates leadership and incubates innovative strategies that propel the field, profession, and systems of early learning.

Structure

NAEYC's governing board develops policies and procedures for the organization and is committed to helping the organization continually grow as a high-performing, inclusive organization that strives toward meeting its vision and mission. NAEYC employs a dedicated staff of professionals that carry out the work of the organization, led by an executive director and executive team.

NAEYC members are organized in networks of local and state affiliate groups, providing opportunities to collaborate with colleagues and work for the needs and rights of children in their communities, as well as at the national level. Affiliates are represented by an affiliate council, an advisory body that was formed in 2001 to provide a forum for networking and capacity-building among affiliates; provide recommendations for the organization, especially in regard to affiliate issues; and help develop a strong, inclusive leadership. NAEYC is committed to leadership development, providing resources, including conference scholarships and the NAEYC Legacy Leaders Fellows program. The association encourages participation from college students and early career professionals, as well as those at every other stage of involvement in the field.

NAEYC provides interest forums as a structure for members with similar interests and values to collaborate, network, and share ideas through online communities and meetings at conferences. The interest forums provide an avenue for discussion of diverse ideas and further the dialogue regarding topics relevant to the organization's mission. NAEYC interest forums include Asian; At-Risk and Special Needs; Black Caucus; CEASE/Violence in the Lives of Children; Children of Incarcerated Parents; Children's Global Issues; Early Childhood Science; Ethics; Faith Based; Family Child Care; Infant Toddler Professionals; Kindergarten; Latino Caucus; Lesbian, Gay, Bisexual, and Transgender; Men in Education Network; Nannies; Play, Policy, and Practice; Primary Grades; Student; Technology and Young Children; Tribal & Indigenous Early Childhood Network; Worthy Wage; and Young Children's Spirituality. NAEYC also has a number of panels and advisory groups that provide support to the organization and offer volunteer opportunities.

Publications and Resources

NAEYC has numerous publications and resources to enhance professional development and improve program quality. *Young Children* is its award-winning, peer-reviewed journal, published five times a year in both print and electronic versions with articles to meet the needs of early childhood professionals serving children from birth through age 8. *Teaching Young Children*, designed especially for preschool educators, has also won national awards and contains research-based, practical ideas preschool teachers can use in their programs. *NEXT for Young Children* and *NEXT for Teaching Young Children* are online resources that provide comprehensive training outlines that can be used with selected articles from each of the journals. *Early Childhood Research Quarterly (ECRQ)* is a scholarly journal with the latest research in the field, along with practical applications of the research. *Voices of Practitioners: Teacher Research in Early Childhood Education* is

a professional, online, peer-reviewed journal publishing the research of early childhood teachers.

NAEYC publishes books to support the professional needs of those working in the early childhood field. Topics include developmentally appropriate practices, child development, curriculum, leadership and management, anti-bias education, effective teaching, meeting standards, and other content relevant to the field.

NAEYC's website provides numerous resources for professionals, including position statements, selected journal articles, information about upcoming conferences and other professional development opportunities, public policy updates and resources, NAEYC accreditation information and support, and other initiatives of the organization. Its families website includes research-based information for parents on child development and learning, NAEYC standards and positions, and NAEYC accredited programs. The site also has materials that programs can share with families.

NAEYC's Center for Applied Research links research, policy, and practice. The center provides reports and research news posts on current issues, including play, assessment, and Common Core State Standards.

Conferences

NAEYC holds two national conferences each year where early childhood professionals can explore the latest in practice, policy, and research, as well as collaborate, network, and learn from one another. The NAEYC Annual Conference and Expo is the largest early childhood conference in the world. NAEYC also offers the National Institute for Early Childhood Professional Development each year for those who support the systems of early childhood program delivery and professional preparation and development.

Accreditation: To Improve the Quality of Early Childhood Programs

NAEYC sets standards of excellence for early childhood programs and professional practice.

NAEYC established a voluntary system of early childhood program accreditation, the National Academy of Early Childhood Programs, which was launched in 1985 after years of intensive study of the research, discussion, field testing, and feedback by thousands of members. In 2000 the Commission to Reinvent Accreditation was established and developed recommendations for the next era of NAEYC accreditation. NAEYC continues to review the accreditation criteria to ensure that they are important to quality, relevant, and based on current research. NAEYC provides resources and technical assistance to support programs interested in pursuing and renewing accreditation. NAEYC accreditation has been used by several states as the top rating of their quality rating and improvement systems (QRIS).

NAEYC is a constituent member of the Council for the Accreditation of Educator Preparation (CAEP), reviewing both initial and advanced early childhood professional programs in educator preparation programs seeking CAEP accreditation. NAEYC first developed early childhood teacher education guidelines for these programs in 1981, and has periodically revised and updated them to meet the current needs and challenges of the field.

NAEYC also has standards for early childhood professional preparation associate degree programs. With no formal body to ensure program quality, as there was for baccalaureate and graduate programs, NAEYC introduced a system to accredit these programs in 2003. The NAEYC Commission on Early Childhood Associate Degree Accreditation reviews applications and awards accreditation to associate degree programs that have demonstrated that they meet the NAEYC Professional Preparation Standards.

Public Policy

NAEYC is regarded as a leading voice in Congress and state legislatures. NAEYC's public policy goal is a well-financed, high-quality system of early childhood education for all children from birth to age 8. Its public policy work reflects NAEYC standards, position statements, and the research in the

field. In addition to its work at the national level, NAEYC provides support for members at the state and local levels. The NAEYC website provides information about current legislative issues and the legislative process. It provides tools to help members in their advocacy work, including contact information and links to members of Congress. Over the years NAEYC has built coalitions with other organizations to maximize impact, and has participated in a number of movements and alliances, including the White House Conference on Children in 1960 and 1970; the Alliance for Better ChildCare (ABC) in the late 1980s that led to the creation of the Child Care and Development Block Grant in 1990; the Stand for Children demonstration at the Lincoln Memorial in 1996, with over 300,000 individuals; and the Strong Start for Children—Building America's Future coalition, beginning in 2013.

Week of the Young Child

Every April since 1971, NAEYC has sponsored the Week of the Young Child to raise awareness of the importance of the early years of life. Local and state communities plan celebrations and events to educate the public about issues related to young children and their families and encourage them to take action to improve quality and access to high-quality programs for all young children. The week is also an opportunity to recognize programs and services that work to address critical issues for young children.

Developmentally Appropriate Practices and Other Position Statements

NAEYC develops position statements to outline the association's position on issues in early childhood practice, policy, and/or professional development for which there are controversial or critical opinions. They are developed through a consensus-building approach, bringing together diverse opinions and expertise, and seeking feedback from a wide audience. The aim of the position statements is to promote discussion on

important topics, establish shared language, promote investments, influence public policy, and build an evidence-based frame of reference and best practice.

With concern about the growing number of inappropriate practices and the push for more academic content to be taught in successively lower grades, NAEYC began work on defining appropriate practice and adopted a position statement on developmentally appropriate practice (DAP) in 1986. This was then extended and published as a book edited by Sue Bredekamp in 1987, with updated versions being released in 1997 and 2009. Developmentally appropriate practice is foundational to NAEYC's publications, training, accreditation, conferences, and other work, as well as for the field of early childhood. Developmentally appropriate practice involves meeting children where they are and helping them meet challenging but achievable goals. DAP is based on three core considerations, making use of what we know about: child development and learning; children's individual interests, abilities, and needs; and each child's social and cultural background.

Other NAEYC position statements include Quality, Compensation, and Affordability; Guiding Principles for the Development and Analysis of Public Policy; Media Violence in Children's Lives; School Readiness; Violence in the Lives of Children; Conceptual Framework for Professional Development; Responding to Linguistic and Cultural Diversity; Prevention of Child Abuse; Learning to Read and Write (developed with the International Reading Association); Developing and Implementing Policies to Promote Accreditation; Early Childhood Mathematics (developed with the National Council of Teachers of Mathematics); Early Learning Standards (developed with the National Association of Early Childhood Specialists in State Departments of Education [NAECS-SDE]); Early Childhood Curriculum, Assessment, and Program Evaluation (developed with NAECS-SDE); Standards for Professional Preparation Programs; and Technology and Interactive Media as Tools in Early Childhood

Programs (developed with the Fred Rogers Center for Early Learning and Children's Media).

History

NAEYC's rich tradition began in the 1920s when Patty Smith Hill began organizing professionals who were also concerned about the quality of the nursery school programs that were developing. Hill, along with Arnold Gesell, Abigail Adams, and 22 others, formed a National Committee on Nursery Schools to discuss the need for standards, innovative thinking, the qualifications of nursery school educators, and other issues of concern. The committee organized a national, public conference in 1926 in Washington, D.C., and officially organized in 1929 as the National Association for Nursery Education (NANE). Its first book was published that same year, *Minimum Essentials for Nursery Education*.

NANE was a member of the National Commission for Young Children, charged with being a clearinghouse on early childhood and child care information needed in the 1940s. It published a quarterly bulletin, issued legislative reports, and held biennial conferences. In the mid-1950s it invited other local, state, and regional organizations that were interested in nursery education to join it, with the stipulation that their members also be members of the national organization. By 1956 NANE had developed a structure with local, state, and regional affiliates.

In 1958, NANE formally incorporated as a not-for-profit corporation and established its headquarters office in Chicago with a half-time secretary. NANE reorganized to become the National Association for the Education of Young Children (NAEYC) in 1964, hired its first executive secretary, Cornelia Goldsmith, and changed the name of its journal to the current title of *Young Children*. In 1965 it had over 5,000 members and moved its headquarters to Washington, D.C. With the birth of the Head Start movement and the need for greater numbers of qualified staff, NAEYC became more active in providing leadership on professional preparation. Milton Akers helped in

these efforts, serving the organization as executive director from 1966 to 1972.

Marilyn Smith took over as executive director in 1973, working in a leadership team with J. D. Andrews, who served as chief operations officer. This team served NAEYC for the next 26 years. Concern for quality remained a leading issue for the organization, prompting it to plan a national accreditation system for early childhood programs, launching the system in 1985. That same year it organized the Council for Professional Recognition to administer the Child Development Associate (CDA) credential. This council became a separate organization in 1989.

Mark Ginsburg took on the role of executive director in 1999, and the organization purchased and moved to its current location at 1313 L Street in Washington, D.C. The organization celebrated its 75th anniversary in 2001. Jerlean Daniel served as executive director from 2010 to 2013. During this time, NAEYC initiated a multiyear national dialogue among the national, state, and local components of NAEYC to strengthen relationships and the capacity of the association at all levels. Barbara Willer, who served the organization in a number of guiding leadership roles for over 30 years, served briefly as interim director until Rhian Evans Alvin took on the role of executive director in August 2013. In recent years NAEYC has increased its electronic resources and has taken on innovative initiatives, promoting issues including professional development, strengthening families, and quality in-state systems. NAEYC's global presence has grown as countries around the world seek NAEYC's guidance. NAEYC has been responding with customized technical assistance and resources, as well as International Institutes and specialized conference offerings. Throughout its history, NAEYC has remained committed to working to improve the quality of care and education that all young children need and deserve, and providing the resources professionals need to achieve this vision.

Gera Jacobs

See also Accreditation; Affordability; Developmentally Appropriate Practice; Early Childhood Education; History of Early Childhood Education in the United States; Leadership in Early Childhood Education; Play and Early Childhood Education; Policy and Early Childhood Education; Quality

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Websites

National Association for the Education of Young Children: <http://www.naeyc.org>

NATIONAL ASSOCIATION OF EARLY CHILDHOOD SPECIALISTS IN STATE DEPARTMENTS OF EDUCATION

The National Association of Early Childhood Specialists in State Departments of Education (NAECS-SDE) is a membership association supporting the professionals leading a variety of federally funded and/or state-specific early childhood education and care programs. Over its 40 years of existence, the association has developed or codeveloped position papers that are intended to offer both guidance and support for maintaining an early childhood focus in state policy. All of the policy statements and position papers are posted on its website.

Members develop the NAECS-SDE positions, often in collaboration with other key national partners. Over the years, the association's positions, including positions on play, the Common Core State Standards for K–3, and attention to high-quality preschool for all, have guided members and others. A recent, comprehensive contribution of the association is the 2013 statement that attends to 10 powerful policies for the kindergarten year.

Early childhood, specifically birth through age 8, is a critical developmental period in which particular attention to the appropriateness of experiences matters. During this critical period it is important for the adults in children's lives to pay attention to maintaining a continuum of age and developmentally appropriate practices, especially when providing educational experiences. Education systems are generally bifurcated between the years prior to kindergarten and those after, with little regard for providing a continuum of development for the whole child utilizing standards of practice that promote the foundational dispositions necessary for future life and school success. In theory, a continuum of appropriate practices to support positive trajectories of growth for every child should be the norm. To foster appropriate practice

in the early grades, NAECS-SDE offers standards of practice beginning with the critical kindergarten year. The following highlight a few standards of practice, which are described further within the organization's policy statement on kindergarten:

- Kindergarten teachers with specialized training specific to early childhood are critical to implementing evidence-based instruction appropriate for kindergarteners.
- Deep connections with families are imperative.
- Selection of appropriate assessment tools and strategies is paramount to adequately capture the wide variation of development inherent in the early childhood years.

Kindergarten is the pivot point in linking the experiences that children have had in their homes, in their communities, and in any preschool experiences to the educational experiences of the K–12 world. Policies that guide the entrance into and programming for the kindergarten year all impact the effectiveness and power of the kindergarten year. In developing this policy statement, the specialists considered key elements, and rather than write extensively on each element, provided a statement that includes definitions, a synopsis of the current national landscape, an opinion of why the view matters for children, and links to research to support the viewpoint.

*Reneé J. DeMars-Johnson and
Deborah Adams*

See also Developmentally Appropriate Practice; Equity and Equality in Early Childhood; Family Partnerships; Kindergarten; Policy and Early Childhood Education; Prekindergarten; Primary Grades; State Policy Making

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NATIONAL CENTER FOR CHILDREN IN POVERTY

The National Center for Children in Poverty (NCCP) is a nonpartisan public policy research center dedicated to promoting the economic security, healthy development, and well-being of low-income U.S. children and families. Established in 1989, the NCCP is part of Columbia University's Mailman School of Public Health, Department of Health Policy and Management. The center uses research to inform policy and practice, with the goal of ensuring positive outcomes for the next generation. Specifically, the NCCP focuses on the mutually reinforcing relationship between the economic security of low-income families and the healthy development of their children via its three focus areas:

1. *Family Economic Security*. Research has shown that low family income can impede children's

cognitive development and their ability to learn; contribute to behavioral, social, and emotional problems; and cause and exacerbate poor child health. The children at greatest risk are those who experience economic hardship when they are young, with poor outcomes being most severe among those who suffer through harsh and chronic hardship. This unit identifies and promotes what is needed to help families succeed and support their children, including employment, wage, and job training policies; work supports such as the Supplemental Nutrition Assistance Program (food stamps), Temporary Assistance for Needy Families (welfare), the Earned Income Tax Credit, child-care subsidies, and family leave insurance.

2. *Early Childhood*. As early as 18 months, children in poverty show significant lags in their development. NCCP promotes the most effective supports for poor children's healthy development in the critical years from birth to the early grades, a time when experiences in the home, community, and school shape a child's chances of success and well-being throughout the life course. These include access to home visiting, quality child care, and early intervention.

3. *Health and Mental Health*. Access to health and mental health care as well as the quality of the care provided play a major role in children's chances for success in school and in life. NCCP evaluates and identifies effective health and mental health policies and programs that support poor children's positive development.

Making Research Accessible

With staff representing a wide range of disciplines, the NCCP conducts original research but also monitors a vast body of national and state-level demographic and policy research. It gathers, evaluates, and synthesizes the most timely and significant findings, using the information to develop fact sheets, policy briefs, and web-based tools, and making it available via its website. An average of 60,000 users visit the website each month, accessing its

publications and user-friendly web-based tools to retrieve, analyze, and compare data.

Child Care & Early Education Research Connections

NCCP also operates Child Care & Early Education Research Connections, a web-based, interactive database of research documents and public use datasets from major child care, Head Start, and early education research and evaluation studies that can be used to conduct secondary analyses on topics related to early care and education. Among other things, Research Connections does the following:

- Houses and topically classifies an expansive, multidisciplinary collection of research reports, syntheses, and other critical information related to child care and early education, and in particular, children in low-income families

- Provides technical assistance and training to researchers and policy makers

- Commissions and develops reviews of research, research-to-policy briefs, and key topic resource lists, and provides bibliographies on policy-relevant topics

NCCP launched Research Connections over a decade ago with funding from the Office of Planning, Research and Evaluation, Administration for Children and Families, and in partnership with the University of Michigan's Inter-University Consortium for Political and Social Research.

Renee Wilson-Simmons

See also Economic Differences in Play; Economic Status and Geographic Influences on Development and Learning; Homelessness; Poverty Effects

Websites

Child Care & Early Education Research Connections:

<http://www.researchconnections.org>

National Center for Children in Poverty: <http://www.nccp.org>

NATIONAL EARLY LITERACY PANEL

The National Early Literacy Panel (NELP) was appointed in 2002 to review the scientific research literature on the teaching of literacy to preschool and kindergarten children. The panel worked under the auspices of the National Center for Family Literacy, and was funded by the National Institute for Literacy in consultation with the National Institute of Child Health and Human Development, the U.S. Department of Education, and the Head Start Bureau of the Department of Health and Human Services. NELP issued its report, *Developing Early Literacy: Report of the National Early Literacy Panel*, in 2008. This study reported the results of a series of meta-analyses of approximately 500 studies on early literacy development and instruction, and it remains the most ambitious review of preschool literacy research yet conducted.

Purpose of the Panel

In 2000, the National Reading Panel (NRP) issued an analysis of research on reading instruction that focused on grades K–12. NELP was appointed to conduct research reviews that would extend the NRP findings to the preschool years, to ensure that programs like Head Start would have the same access to research on instructional effectiveness available to elementary and secondary schools.

Specifically, NELP set out to determine, on the basis of empirical research, (1) the skills and abilities of young children that predict later reading and writing outcomes, (2) the instructional approaches that lead to gains in those skills and abilities, and (3) the child characteristics or instructional conditions that mediate or moderate the effects of instruction on young children's literacy development.

Panel Members

Members of the panel included Timothy Shanahan (panel chair), University of Illinois at Chicago; Anne Cunningham, University of California,

Berkeley; Kathy C. Escamilla, University of Colorado; Janet Fischel, State University of New York at Stony Brook; Susan Landry, University of Texas Health Science Center at Houston; Christopher J. Lonigan, Florida State University; Victoria J. Molfese, University of Louisville; Chris Schatschneider, Florida State University; and Dorothy Strickland, Rutgers University. Laura Westberg of the Center for Family Literacy played a significant role in the work.

Methodology

NELP conducted extensive electronic searches that identified 8,000 potential articles; panel members then screened these articles to determine their relevance to the research questions and their consistency with selection criteria established by the panel. Ultimately, approximately 500 articles were used in the various meta-analyses that were conducted. These analyses summarized correlational data exploring the relationships among children's early abilities and skills and their later literacy development, and experimental results that revealed the impact of instructional interventions on children's learning during the preschool years.

The panel first identified early skills that were precursors of later literacy achievement. This was important since few preschoolers are able to read in any conventional sense so effective preschool literacy programs have to be evaluated in terms of their ability to teach successfully skills that lead to higher literacy achievement. To identify precursors the panel analyzed studies that reported correlations between early skill attainment and later achievement in decoding, reading comprehension, or spelling.

Unlike the NRP that asked questions about the effectiveness of specific instructional approaches and then sought evidence on these approaches, NELP considered the results of all published experimental studies that examined literacy instruction with preschool and kindergarten children. This meant that the panelists, once they had identified the universe of studies,

had to organize them into related sets. Consequently, the studies provided information about five instructional approaches: instruction that taught children to crack the alphabetic code, shared reading interventions, parent programs, preschool/kindergarten programs, and language enhancement interventions.

Research Findings

NELP identified six early skills that had high correlations with later literacy as shown by data drawn from multiple studies with large numbers of children. These variables maintained predictive power even when other potential influences were accounted for. They included alphabet knowledge, phonological awareness, rapid automatized naming of letters/digits and objects/colors, phonological memory, and name writing. Additional precursor skills that were moderately correlated with later literacy achievement included oral language, concepts about print, print knowledge, reading readiness, and visual processing. NELP used these predictors, along with measures of conventional reading and spelling (e.g., decoding, fluency, comprehension), as outcomes in the evaluation of preschool and kindergarten teaching approaches.

NELP found that teaching phonological awareness, letter sounds, and decoding led to marked improvements in early literacy outcomes and conventional literacy skills. Book sharing interventions improved children's print knowledge and oral language skills, and parent programs improved oral language skills and general cognitive abilities. Studies of preschool and kindergarten programs found significant impacts on spelling and reading readiness, while language interventions had large impacts on children's language skills.

NELP, for the most part, was unable to determine whether child characteristics influenced the effectiveness of the instructional interventions. In general, age, socioeconomic status, and race did not alter the effectiveness of the interventions. One exception is that the language interventions showed greater effectiveness in preschool than kindergarten.

Few interventions improved conventional literacy skills or the precursor skills most related to later literacy growth; the exception being code-emphasis interventions. Code-emphasis interventions that produced large and positive effects on conventional literacy were usually teacher-directed lessons delivered one-on-one or through small-group instruction. Almost all of these efforts focused on phonological awareness (e.g., having students detect or manipulate small sound units of words). Teaching children about the alphabet (e.g., letter names or letter sounds) or simple phonics tasks (e.g., blending letter sounds to make words) enhanced the effects of phonological awareness training during these years.

Timothy Shanahan

See also Curriculum and Early Childhood Education; Literacy; Literacy Assessment; Oral Language Development; Reading

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NATIONAL HEAD START ASSOCIATION

The National Head Start Association (NHSA) is a not-for-profit organization that works in support of the 1,600 Head Start grantees in the United States and the 1 million children and 200,000 staff members involved in Head Start programs.

NHSA advocates for changes in policy so that all eligible children can benefit from the Head Start model of support for the whole child, the family, and the community.

Mission and Vision

As noted on its website, NHSA's vision is

to lead—to be the untiring voice that will not be quiet until every vulnerable child is served with the Head Start model of support for the whole child, the family and the community—and to advocate—to work diligently for policy and institutional changes that ensure all vulnerable children and families have what they need to succeed. NHSA's mission is to coalesce, inspire, and support the Head Start field as a leader in early childhood development and education. (NHSA, n.d.)

History

Head Start began in the summer of 1965, serving more than 500,000 children in a national commitment to children in poverty by providing comprehensive services to help prepare them and their families to begin school. Over the next 50 years, more than 31 million children have attended Head Start, and extensive research documents how the program has enabled them to succeed in school and in life.

Mirroring the history of the Head Start program, NHSA was formed and grew to scale quickly. The idea for a Head Start Association came out of a national conference for directors of community action agencies in 1973 in Kansas City, Missouri. Some of the Head Start program directors attending the conference discussed the need for a national association that could advocate for the Head Start community in Congress. They were concerned by the Nixon administration's threat to eliminate community action agencies that at that time sponsored the majority of Head Start programs.

This core group of directors met with other Head Start directors from across the country, pooled their resources, and formed the National

Directors Association. The directors passed a resolution to invite Head Start parents to form an affiliate association. At this request Head Start parent delegates from each state met in September 1974 to form the Head Start Parents Association. At a January 1975 meeting, non-director staff members formed the third affiliate association, the Head Start Staff Association. Later, a fourth association, Friends of Head Start, was formed, involving supporters of Head Start who did not fit into any of the other categories.

The Third Annual Head Start Conference was held in May 1976, in New Orleans, Louisiana. This meeting represented the combined efforts of the four associations and participation was overwhelming. The National Head Start Association was catapulted into a new level of mass conference planning. At the Fourth Annual Meeting held May 19–22, 1977, in El Paso, Texas, the first official officers of NHSA were elected. Rosalie Carter-Dixon of Newton, Massachusetts, was the first president.

The members of NHSA's four affiliate associations voted to merge into one association on June 7, 1990. In the new structure, Head Start directors, parents, staff members, and friends became members of one association, distinguished by a different membership class designation. This simplified the association's structure, unified its members, and helped clarify its mission of bringing together all members of the Head Start community. Now, the geographic Head Start regions, the community involved in American Indian/Alaska Native Head Start programs, and the community involved in Head Start programs for migrant and seasonal farmworker families each sent four members to the NHSA Board: one parent, one staff member, one director, and one friend.

Advocacy Impact

Throughout NHSA's history, it has had good working relationships with the federal Office of Head Start and successfully worked to maintain bipartisan support from Congress and the White House.

The Carter Administration

During the Carter administration, NHSA mobilized thousands of letters from every state in an effort that contributed to an increase of \$190 million in final budget allocations to Head Start.

In 1979, President Carter tried to include the program under the newly established Department of Education. Head Start leaders met with key congressional and administration officials to block the move, and Head Start parents joined the effort—a group from Connecticut traveled by bus all night to Washington, D.C., to talk to their senator. The congressional committee reviewing the proposal recommended that Head Start remain in the Administration for Children, Youth and Families (ACYF). In 1979 the Head Start program was reauthorized for 5 years, with funding authorized for a 20% increase each year in the number of children and families served.

The Reagan Administration

In 1981, a block grant proposal aimed to cut the program's budget by \$130 million. The proposal was thwarted by an outcry from NHSA parents, staff, and friends. A federal Head Start strategy paper proposed giving states more responsibility for administering programs but cutting costs across the program's services, monitoring, and evaluation. NHSA launched a massive campaign in protest to these recommendations. As a result of these efforts, established services were maintained. In fact, an increase of \$125 million was allocated for the 1982 fiscal year.

The 1984 reauthorization of Head Start was carefully drafted to ensure that (1) funds would be available for training on an ongoing basis, (2) the National Child Development Associate (CDA) program would continue, (3) Head Start's Performance Standards would be strong, and (4) Head Start services could be provided to each child for 2 years. NHSA and advocacy partners were successful in pushing Congress to complete the reauthorization before adjourning.

In 1987–1988, Head Start was reauthorized again, for 4 years. In 1988, Congress appropriated more than \$50 million for Head Start salary improvements, a long-sought NHSA goal. Thousands of thank-you letters were sent.

The George H. W. Bush Administration

Head Start's 1990 reauthorization included set-aside funds for quality improvement; a 2% reserve for training; expansion of Parent–Child Centers; minimum teacher qualifications, where every classroom must have at least one teacher with a Child Development Associate (CDA) degree or appropriate early childhood degree or credential; comprehensive reports to Congress on Head Start biannually; a longitudinal study of Head Start; and additional clarifications to the law.

The Head Start Improvement Act in 1992 made possible the purchase of facilities, extended waivers for nonfederal regulations, established transportation regulations, provided for health services to younger siblings, protected the quality set-aside, called for the review of new grantees after 1 year, provided literacy and child development training to parents, and eliminated priority status to a grantee once funded.

The Clinton Administration

The Head Start Reauthorization Act of 1994, enacted with bipartisan sponsorship and support, made a number of changes to ensure that all Head Start children and families were offered high-quality services, and played an important role in expanding Head Start through the creation of Early Head Start for pregnant women, infants, and toddlers, and overall improvement in the quality of the programs.

A new Congress determined to slash the federal deficit. In fiscal year 1996, the Head Start community raised its voice and gained a small increase of \$36 million for Head Start. With the Head Start family once again playing a strong role in appropriation debates, Head Start secured \$411 million and \$374 million increases for fiscal years 1997 and 1998, respectively.

The George W. Bush Administration

George W. Bush, elected president in 2000, advocated moving Head Start to the Department of Education and funding it through a block grant to individual states. NHSA and the Head Start community, citing the importance of the federal-to-local funding structure of Head Start and the value of having a program focused on comprehensive services to children and their families, succeeded in keeping the program under the auspices of the Administration for Children and Families in the Department of Health and Human Services.

Head Start was reauthorized again in 2007 in the Head Start for School Readiness Act, which included numerous provisions intended to enhance the program's focus on school readiness. These included increased degree requirements for teachers, memoranda of understanding with local school districts to improve transition, a call for required use of scientifically valid curricula, and the creation of Centers of Excellence so exemplary programs could share their expertise. In addition, the 2007 act made homeless children categorically eligible. Finally, the act called for a system to identify low-functioning programs and require them to compete for funding with other potential providers.

The Obama Administration

During the Obama administration, the program enjoyed the support of the White House. Yet the 2011 Budget Control Act and the resulting sequester led to a 5.3% cut to Head Start and Early Head Start programs across the country. In 2012–2013, programs served 57,000 fewer children as a result of cuts. In addition, the government shutdown in October 2013 would have forced numerous programs to close had it not been for NHSA's quick work to secure philanthropic support to keep them open.

In 2014, following a year of relentless advocacy, funding that was cut in the sequester was restored to Head Start, and Congress allocated an additional \$500 million for new investments in

Early Head Start Expansion and Early Head Start–Child Care Partnerships. NHSA strongly advocated for the expansion option for rural communities and for time to establish successful partnerships. Grant awards were announced in December 2014.

Leadership

In 2009, Yasmina Vinci became NHSA's executive director. Vinci was principal and founder of EDGE Consulting Partners and the founding executive director of the National Association of Child Care Resource and Referral Agencies (NACCRRA). At NACCRRA, she led the transition from an all-volunteer association of 200 child care resource and referral agencies to a powerful national network of more than 860 community-based organizations, now Child Care Aware of America.

NHSA Organization

Beginning in 2014, NHSA reorganized its programs under a central Knowledge Center, designed to be an infrastructure that generates, curates, communicates, and connects knowledge across different topic areas related to families, programs, researchers, and policy makers. Within the Knowledge Center are four centers that organize NHSA's efforts to support practitioners and advance the future of the Head Start program. Wrapped around this work are partnerships with advocacy organizations and resource organizations that support Head Start programs and NHSA in meeting the needs of the most vulnerable children and families in the United States. In parallel to decades of advocacy efforts, NHSA has worked to create tools ranging from early literacy materials to the *NHSA Dialog* journal to connect researchers and practitioners to the newly launched *Go Smart!* app to help parents and teachers fight childhood obesity.

The Center on Advocacy

The NHSA Center on Advocacy will use grassroots action, parent-driven support, and a

nonpartisan strategy to organize national, state, and local activities to ensure a sustainable future for Head Start. The center hosts Leadership Institutes to educate Head Start leaders as advocates and help them build relationships with their representatives.

The Center for Effective Practice

The Center for Effective Practice engages organizations committed to Head Start children and families to identify, create, and share knowledge, resources, and communities of learners to deepen understanding of best practices in early education. Information provided by the Center for Effective Practice is evidence based and meant to help organizations maximize resources and produce optimum outcomes. Each year, conferences for Head Start parents and staff share best practices, innovations, and new ideas.

The Center for Policy, Data, and Research

The NHSA Center for Policy, Data, and Research generates new knowledge to lead reform for stronger child and family outcomes, informed by outstanding practices from the Head Start community.

The Center on the States

The Center on the States cultivates, supports, and positions innovation and best practices in state-based early learning systems. The center supports the work of state Head Start communities through a network of affiliates to build visionary leaders, trusted partners, and tireless voices for vulnerable children and families in their states.

Fifty years after the creation of Head Start, the need for advocacy continues, and the National Head Start Association is leading the field in innovating for the future.

Yasmina Vinci

See also Early Childhood Education Systems; Early Childhood Inclusion; Early Head Start; Head Start; History of Early Childhood Education Policy; Policy and Early Childhood Education; Poverty Effects

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NATIONAL INSTITUTE FOR EARLY EDUCATION RESEARCH

Founded in 2002, the National Institute for Early Education Research (NIEER) supports excellence and equity in early childhood education by conducting and disseminating nonpartisan research and policy analysis. The institute's signature product is an annual report, now in its 11th year of publication, on the state of preschool in the United States. The *State of Preschool Yearbook* is based on a survey of all state-funded pre-K programs (currently operated by 41 states and the District of Columbia) that tracks state policies including eligibility and enrollment, operating schedules, program standards, personnel, monitoring and evaluation, and funding. In addition, the institute seeks to conduct field studies that use the most rigorous possible methods in order to produce research that can yield clearly interpretable findings. NIEER conducts evaluations of program effectiveness, research and development regarding curriculum and professional development, research and development of assessments of teacher practice, research and development on the Early Learning Scale for children, and a wide range of policy analyses. The institute conducts

research internationally as well as within the United States. Dissemination efforts of the institute include a website with an extensive collection of policy briefs, research reports, links to journal articles, videos, and a news archive. The website receives millions of hits each year. In addition, NIEER publishes a biweekly electronic newsletter and a blog reaching more than 6,000 readers. NIEER also maintains a Facebook page and a Twitter account with more than 11,300 followers. The institute leads the Center for Enhancing Early Learning Outcomes and with its partners in this enterprise (i.e., Educational Development Corporation and Council of Chief State School Officers) provides extensive technical assistance to state education agencies. Together with the Korea Institute for Child Care and Education, the institute publishes an open-access peer-reviewed journal through Springer, the *International Journal of Child Care and Education Policy*.

NIEER is directed by W. Steven Barnett, an economist and Board of Governors Professor at Rutgers University. He leads a diverse team that carries out the institute's research using their combined backgrounds in education, human development, developmental psychology, public policy, economics, sociology, and statistics. This team has been a leading advocate of the view that public and private spending on young children has an important investment component and that research ought to inform policy makers and the public about the costs and benefits of early care and education policies, programs, and practices from that perspective. In addition, NIEER has advanced the view that policy recommendations should not be made based on individual studies, but taking into account all of the relevant science. For this reason, NIEER produces a series of policy briefs (*Preschool Matters*) that summarize the evidence across disciplines on specific topics relevant to early childhood policy. In addition, NIEER has conducted major meta-analyses and other reviews of research on the long-term impacts of early childhood programs (broadly defined) on children's learning and development. Among the most notable are a meta-analysis of research in the

United States on early care and education program impacts led by Dr. Greg Camilli; a meta-analysis of the international research on early intervention impacts on cognition, social-emotional development, nutrition, and health led by Dr. Milagros Nores; and an essay review on the sources and nature of variations in impacts on learning and development in the years after children leave early childhood programs and enter public schools by Dr. Barnett that was published in *Science*.

NIEER partners with the Educational Development Corporation headquartered in Boston and the Council of Chief State School Officers to operate the Center on Enhancing Early Learning Outcomes (CEELO). CEELO is charged with strengthening the capacity of state education agencies (SEAs) to lead sustained improvements in early learning opportunities and outcomes for children from birth through age 8. CEELO convenes workgroups to respond to SEAs' identified and emerging needs, as well as participant-led affinity groups to support peer-to-peer learning, and collective efforts to address CEELO's five priority goals; produces research-based materials disseminated through the web (ceelo.org) to guide SEAs decisions regarding policy and practice; provides a 50-state database with key benchmarks on SEAs policies and initiatives; conducts topical webinars and an annual national "RoundTable" to engage all 50 states in sustained examination of key policy issues and promote SEAs leadership development; and delivers targeted support and consultation to states to meet their individual needs.

The *State of Preschool Yearbook* is based on an annual survey that has traced funding, access, and policies of state preschool programs since 2002. The yearbook survey was initially developed and supported with funding from the Pew Charitable Trusts. In recent years the survey has been funded by the U.S. Department of Education's National Center for Education Statistics. The survey is a critical resource for policy makers, academics, the media, and others seeking to understand state policy and its consequences. The survey also brings greater transparency to state preschool education

policy. The survey collects responses to more than 100 survey questions that have been administered consistently for more than a decade. All of the historical data are archived and available for general use by the public.

In collaboration with state agencies and other research organizations, NIEER conducts evaluations of the effectiveness of preschool programs throughout the United States, primarily at the request of state and local governments. In addition to publishing studies in academic journals, NIEER archives its evaluation reports at nieer.org. NIEER employs a wide range of research designs, quantitative and qualitative, as appropriate to address policy makers' questions. Examples of this evaluation research include the following impact studies: an evaluation of the Arkansas Better Chance preschool program; an evaluation of New Mexico's state-funded preschool program; and a series of evaluations of New Jersey's Abbott program, which provides full-day, high-quality preschool education beginning at age 3 to all children in 31 districts that now extends through Grade 5 and finds substantial and sustained gains in educational achievement as well as reductions in grade repetition and special education placements. NIEER currently is conducting an evaluation of the AVANCE parent-child program, an intervention that begins with families in the first 3 years of a child's life.

NIEER has conducted extensive research on who participates (and does not participate) in early care and education programs, investigating participation patterns nationally and in states to assess the extent and sources of disparities in participation rates. An early example of this research is "Who Goes to Preschool and Why Does It Matter?" (2004; by W. Steven Barnett and Donald J. Yarosz), Number 7 in NIEER's *Preschool Policy Matters* series. This study found that pre-K attendance rates remained highly unequal and that many of those who might benefit most from pre-K participation did not attend. A key contribution of NIEER's work has been to point out that differences in participation rates—lower rates of participation by Hispanics, for example—cannot simply be attributed to differences in demand as they also

reflect geographic differences supply created by federal and state policy. NIEER also has examined variations in participation rates within states.

Another key area for research by NIEER is to evaluate the costs and benefits of alternative program design features. For example, NIEER conducted a randomized trial of the *Tools of the Mind* curriculum. This curriculum explicitly seeks to enhance executive functions as a means to improve child development holistically. In comparison with a more conventional preschool program, *Tools* was found to produce academic gains that were at least as large while producing much greater improvements in classroom behavior. An in-depth investigation conducted with Adele Diamond (published in *Science*) found significant improvements on well-designed, highly specific measures of executive function. The *Tools* curriculum is not significantly different in cost, but it does require an investment in training and time to develop to mature implementation as it differs considerably from typical practice in American preschools. Another influential example of this research is NIEER's randomized trial comparing English immersion to dual language (Spanish–English) immersion preschool education. The dual language immersion model had no additional costs and produced equal gains in English language development and mathematics while advancing Spanish language proficiency. Finally, NIEER conducted a set of randomized trials with the Chicago Public Schools to compare alternative approaches that might enhance children's learning and development including a longer day, class size reduction, parent engagement, and increased coordination from preschool through the early grades. Costs of the enhancements, as well as their impacts on language, literacy, and mathematics, were measured. Results were expected in 2015.

The institute has a strong interest in early care and education outside the United States, including in developing countries where some 200 million children have compromised development due to underinvestment. With public and private sector partners, NIEER has been conducting a randomized trial of an intervention through full-day child

care from birth to age 5 in two disadvantaged communities in Colombia. This study can be considered a rough replication of the landmark Abecedarian study in a new context with a sample that is an order of magnitude larger than those in the Abecedarian study and other landmark randomized trials. The intervention is a comprehensive nutritional and educational program and the study examines cognitive, linguistic, nutritional, and social impacts over the long term. Initial findings will be published in 2015.

NIEER has developed, implemented, and evaluated multiple initiatives that foster high-quality early science, technology, engineering, and mathematics (STEM) teaching and learning for all young children. Efforts, led by Drs. Alissa Lange and Kimberly Brenneman, have focused on professional development, curricula, family engagement, dual language learners, and home–school–community connections. Funding from public and private sources has supported a range of studies. For example, NIEER is engaged in two multiyear projects funded by the National Science Foundation to create and evaluate an innovative preschool professional development model around STEM, with supports for dual language learners. Results of this work have been disseminated at national conferences, and findings will be published in 2015–2016.

NIEER also conducts assessment development. Through extensive field research, NIEER identified needs not met by existing assessments of both classroom practice and children's learning and development. Researchers at NIEER have collaborated with other experts to respond to these needs to measure development. First, the *Preschool Rating Instrument for Science and Mathematics* (PRISM) is a classroom observation tool that measures the presence of classroom materials and teaching interactions to support mathematics and science learning. PRISM places a lens on math and science content-specific quality in early childhood classrooms that had previously been absent from the field. Second, the *Classroom Assessment of Supports for Emergent Bilingual Acquisition* (CASEBA) measures, through observation, the quality of language and literacy supports teachers

offer children with a focus on dual language learners (DLLs). CASEBA has a partner instrument for professional development, *Self-Evaluation of Supports for Emergent Bilingual Acquisition*. Third, the *Teacher Survey of Early Education Quality* (TSEEQ) is a self-report survey completed by early childhood teachers regarding their classroom practices and quality. This instrument is a potential proxy for expensive and time-consuming classroom observation. Lastly, NIEER research staff recognized that early childhood teachers were becoming overwhelmed by child assessment and were not using the data collected to inform instruction. The *Early Learning Scale* (ELS) is a streamlined systematic observation-based assessment of preschool and kindergarten children to allow teachers to assess children's progress toward learning standards in a manageable and useful way.

Finally, as a unit of Rutgers University, NIEER is highly engaged in supporting New Jersey's state and local education agencies in their efforts to continuously improve early care and education. In addition to studies previously mentioned, these efforts include a statewide study of the quality of infant-toddler programs, validation of the state's quality rating and improvement system, an evaluation of the quality of preschool and kindergarten programs serving children with disabilities, training and technical assistance in self-evaluation and continuous improvement in kindergarten, and development and provision of professional development for guidelines for effective practice in first through third grades.

W. Steven Barnett

See also Early Childhood Education; Policy and Early Childhood Education; Prekindergarten; Prekindergarten Program Evaluation; Preschool

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National Institute for Early Education Research: <http://nieer.org>

NATURE AND YOUNG CHILDREN

The ways young children experience nature have changed in recent decades. Today children are more likely than ever before to be disconnected from the natural world. This limited contact with nature negatively affects the growth and development of the whole child. In addition, young learners are losing the opportunity to connect with nature and develop an understanding of their place in the natural world. This entry will focus on reasons why children's experiences in nature have changed, the benefits of spending time in natural playscapes, and developmentally appropriate ways to incorporate nature into children's daily experiences.

Reasons for Change in Children's Nature Experiences

Today's children spend an average of only 4 to 7 minutes a day outside. This limited outdoor time can be attributed to several cultural changes and developments. First, children are exposed to many different technological devices at a young age. These devices have become a part of many family routines. As a result, young children often experience virtual nature rather than getting outside and exploring, either on their own or with a caring adult. Instead of spending time in nature they watch it on a screen. On average, children spend more hours participating in screen activities than they do in school each year.

Parents are often afraid to take their children outside or allow them to explore on their own. They are conditioned by the media coverage of neighborhood crime, child abductions, insect-borne diseases, and various forms of pollution. Walking or riding a bicycle to school was once considered a routine part of childhood. Today young children may spend as much as 2 hours a

day on the school bus. Those who live close to the school are not encouraged to walk to or from school due to parental worry, time constraints, or extracurricular commitments.

Another cultural change occurring in recent decades is the overscheduling of young children's lives. Parents are pressured to enroll their children in sports and other extracurricular activities before even starting kindergarten to give them an advantage later in life. Schools are limiting and sometimes even omitting recess to provide teachers with more instructional time to better prepare young learners for standardized tests and meeting state and national learning standards. Self-directed exploration and play in the out of doors is no longer valued as a necessary part of childhood.

The essence of play itself and natural play environments have dramatically changed in recent decades. Children are so programmed, tested, and pressured to get ready for the next level of school that they have little or no experience with fantasizing, wondering, wandering, or experiencing the pleasures of carefree, idle days. In addition, they have access to fewer wild places. Many children's play areas and school yards have become urbanized with manicured fields, artificial surfaces, and manufactured climbing equipment.

Teachers, caregivers, and parents do not value time spent outside and often fear children asking questions to which they don't know the answers. Adults may feel uncomfortable in the outdoors due to their own limited experiences and concern over weather conditions. Many feel nature can only be experienced when the weather is perfectly suited for both adult and child.

Benefits of Spending Time With Nature

Self-directed, exploratory play in a natural environment influences children's growth, development, and attitudes about the environment in a variety of ways. The well-being of young children, both physically and mentally, is influenced by their interactions with the natural world. Research indicates that children who spend time outside in natural playscapes (a) are less likely to be obese;

(b) have more developed motor skills; (c) experience more focused attention and less stress (especially for children diagnosed with attention-deficit/hyperactivity disorder); (d) develop critical thinking and problem-solving skills; (e) gain a deeper understanding of life cycles and seasons; (f) display more diverse imaginative and creative play behaviors; (g) are more aware of the interdependence among plants, animals, people, and environmental elements; and (h) acquire a personal connection and stewardship for nature that extends throughout their lives. Studies have shown that children who spend time with nature show increases in their motivation to learn, self-esteem, creative play, and cooperation. Spending time in nature allows children the opportunity not only to discover information about the environment but also to enter into a rich and complex relationship with nature.

Developmentally Appropriate Ways to Share Nature With Young Children

Connecting children with nature is essential for optimal growth and development in all developmental domains, vital for fostering attitudes about and understanding of the environment, and necessary for providing individuals with inner sources of strength and healing during stressful times. There are numerous ways that caring adults can foster children's and their own relationship with the natural world.

Nature is best learned about in nature—exploring, discovering, investigating, adventuring, and experimenting. Nature explorations, activities, and experiences should begin simply and focus locally. Children need time to investigate at their own pace in local, natural playscapes. This might include backyards, school playgrounds, or natural areas in the community. In addition, children need these outdoor experiences on a routine basis in all kinds of weather. Emphasis on discovery and relationships in a warm, nurturing atmosphere help children feel secure in their exploration and build skills. Adults who model interest and wonder, sharing their own observations as they marvel at

those made by the children, assist children in building relationships and making connections with the natural world.

Whenever possible, children's natural curiosities should be honored and explored. Developmental levels must be considered when planning experiences for young children. They are not yet intellectually, socially, or emotionally prepared to learn about or take on the environmental problems of the world but rather need time to explore, understand, and love their local environment. Following the child's lead promotes learning experiences where everyone is actively involved. Capitalizing on children's natural inclinations toward fantasy and imagination helps them better identify with and understand the natural world. Allowing children to experience challenges and become things they discover better assists them in connecting to the environment. It enables them to build a sense of place. Finding and fostering special places in these natural habitats helps children better connect to place and leads toward deeper understanding and connectedness to the land.

As professionals in the field create and change children's outdoor play areas, it is important to consider how these spaces are designed. Including many natural elements that foster nature play, challenge emerging abilities, foster building relationships, encourage imagination and creativity, as well as allowing time to engage in exploratory play will help young children experience nature and develop to their full potential. Thoughtful planning, encouragement, and caring will enable young children to develop into tomorrow's healthy and knowledgeable environmental consumers and decision makers.

Sherri Griffin

See also Curriculum and Early Childhood Education; Media Influences on Play; Obesity Prevention; Outdoor Play Spaces; Recess; Science

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NEONATAL BEHAVIORAL ASSESSMENT SCALE

For much of the 20th century, neonatal assessment focused on the so-called primitive reflexes and postural reactions, and was intended to identify problems or abnormalities as early as possible in the life cycle. Assessment scales were based on the assumption that the newborn infant was indeed a "blank slate," a reflex organism, operating at a brain-stem level. However, a growing body of research on newborn capabilities in the 1970s led to a greater appreciation of the human newborn as a responsive organism, capable of organized behavior. With the development of the Neonatal Behavioral Assessment Scale (NBAS), the scope of newborn assessment was expanded to include detailed descriptions of infant competencies and the full range of individual differences in newborn behavior. This entry provides an overview of the content of the NBAS, its adoption by researchers, and application as an educational tool.

The Development of the Neonatal Behavioral Assessment Scale

The discovery that newborns could see, hear, and respond differentially to positive and negative stimuli contributed significantly to the development of the NBAS by T. Berry Brazelton and his colleagues in 1973. The NBAS is based on the assumption that newborn infants possess a rich behavioral repertoire of visual, auditory, and perceptual abilities that enables them to explore the world around them. Because it yields

a comprehensive description of newborn behavioral competencies, on the one hand, and identifies individual differences in newborn behavior, on the other, the NBAS can be said to begin where other neurological and behavioral scales left off.

Never conceptualized as an objective assessment in the classic psychometric or medical diagnostic tradition, with an emphasis on pass/fail criteria, the NBAS is based on a broader appreciation of the complexity of newborn behavior. It consists of 28 behavioral items, which measure the infant's behavioral capacities, and 16 reflex items, which measure the infant's neurological status. The scale describes the infant's functioning in seven key areas:

1. *Habituation*—the infant's ability to respond to and inhibit discrete stimuli while asleep
2. *Orientation*—the newborn's ability to attend to visual and auditory stimuli
3. *Motor*—motor performance and the quality of movement and tone
4. *Range of State*—infant arousal and state lability
5. *Regulation of State*—the infant's ability to regulate his or her state in the face of increasing levels of stimulation
6. *Autonomic Stability*—signs of stress related to homeostatic adjustments of the central nervous system
7. *Reflexes*—records the number of normal and abnormal reflexes

The Neonatal Behavioral Assessment Scale's Impact on Research

The NBAS has been employed by researchers over the last four decades to provide a window on newborn and infant abilities. These studies have expanded our understanding of the range of variability in newborn behavior patterns and the effects of a wide range of pre- and perinatal factors on newborn behavior and development.

The NBAS has been used in studies of intrauterine-growth-retarded and premature infants, for example, in studies of the effects of hyperbilirubinemia; different modes of delivery; maternal analgesia; the prenatal ingestion of marijuana, cocaine, alcohol, caffeine, and tobacco; as well as the effects of exposure to environmental polychlorinated biphenyls (PCBs). The NBAS is also used to examine the effects of postpartum depression on newborn behavior and the effects of newborn behavioral differences on the parent-child relationship. Although the NBAS was designed primarily to describe individual differences in newborn behavior, it has been used in longitudinal studies to provide a baseline or starting point against which to measure future change or continuity, as a predictor of developmental outcome.

The NBAS has also been used extensively in cross-cultural studies. This body of research reveals a wide range of variability in newborn behavioral differences across cultures. Furthermore, these studies suggest that whereas the basic organizational processes in infancy may be universal, the range and form of these adaptations are shaped by the demands of each individual culture. In this way, cross-cultural studies using the NBAS have not only confirmed the bidirectional nature of development but expanded our understanding of the range of variability in newborn behavior patterns and the diversity of child-rearing practices and belief systems across settings.

The Neonatal Behavioral Assessment Scale and the Newborn Behavioral Observations System as Educational Tools

The NBAS has also been used as an educational tool. A series of studies, summarized by Nugent (1985) and Nugent and Brazelton (2000), showed that demonstrating the newborn infant's behavioral capacities to parents can serve as a mechanism for helping parents learn about their new infant, thereby strengthening the relationship between parent and child and supporting family adjustment. The Newborn Behavioral Observations (NBO)

comes from the NBAS tradition and was developed by Nugent, Keefer, Minear, Johnson, and Blanchard (2007) as a relationship-building instrument, to sensitize parents to the capacities and individuality of the newborn infant and to foster the relationship between clinicians and parents. The focus, however, is on relationship building rather than on assessment per se, and because it is short and flexible, it can easily be integrated into routine care in hospital, clinic, or home settings. As a result, the NBO is being used increasingly by nurses, doctors, home visitors, and other early intervention professionals to help parents become more aware of their baby's capacities, to reduce postpartum depression and promote the bond between parents and their infants from the very beginning.

The NBAS remains the most comprehensive assessment of newborn behavior available and as such continues to play a major role in expanding an understanding of the phenomenology of newborn behavior among researchers and clinicians alike. As we look toward the future, advances in neuroscience will be enriched by the kind of behavioral observation techniques pioneered by the NBAS, so that combining the NBAS with emerging imaging techniques will undoubtedly allow for more comprehensive exploration of the relationship between brain and newborn behavior and development.

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See also Infant and Toddler Programming; Infant Rooms; Infant-Parent Relationships; Neonatal Health and Development; Neuroscience and Early Education; Prenatal Mental Health

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NEONATAL HEALTH AND DEVELOPMENT

The neonatal period refers to the first 4 weeks of life beginning at birth. This is a vulnerable time period for a neonate's health and development. Infant mortality most often occurs during the neonatal period. According to the World Health Organization, internationally, 44% of infant deaths under the age of 5 occur during the first 4 weeks of life. This entry provides insight into neonatal health and development issues, including nutrition, reflexes, and sleeping patterns, and outlines several approaches to neonatal assessment.

Neonatal Health

Infant health during the neonatal period sets the trajectory for all later growth and development. In the moments and days after birth, newborn infants must make the successful transition from the womb to surviving outside of their mother.

This transition includes a bombardment of the senses in which infants must adapt to breathing air into their lungs, regulating their own body temperature, seeing light, hearing non-muffled sounds, smelling their environment, and feeling hunger for the first time.

The most common cause of death during the neonatal period is preterm birth. An infant is considered preterm if born before 37 weeks gestation. In the United States, approximately 12% of infants are born preterm. Preterm infants are at higher risk for mortality if their birth weight is lower than 5.5 pounds and/or if they are born before 34 weeks gestation. There are many causes of preterm birth, but the most common factors include maternal prenatal health, genetic conditions, and multiple births. With new medical technologies, infants who are born prematurely often have a better survival rate than they did even 25 years ago but may still suffer long-term adverse effects, including lung, vision, and cognitive difficulties.

Neonatal Assessments

Due to the vulnerability of the infant during this time period, neonates often undergo several assessments upon birth to determine the status of their health. The most common assessment of this kind is the Apgar score, named for the doctor who developed it in 1953, Virginia Apgar. The Apgar is administered immediately upon birth and is used to help determine the level of medical intervention needed for the newborn infant. It measures appearance (color), pulse (heart rate), grimace (reflex irritability), activity (muscle tone), and respiration (respiratory effort), each on a 3-point scale (0–2). A healthy baby typically receives Apgar scores of 7–10, whereas scores of 3 or below often signify a critical need for medical attention. Additional common newborn assessments include the Dubowitz examination, designed to estimate a newborn infant's gestational age, and the Neonatal Behavioral Assessment Scale, designed to evaluate the infant's reflexes and overall neurological strengths and weaknesses.

Reflexes

Newborn infants are born equipped with neurological reflexes that help them successfully adapt to their new environment. Healthy reflexes are critical to newborns' survival. Basic human reflexes include breathing, blinking, sneezing, and coughing. Unique to newborns, reflexes such as rooting and sucking help ensure that an infant's biological need for nourishment is met. When an infant's cheek or mouth is touched, the infant will turn her head toward the touch and search for a nipple with an open mouth, a reflex known as rooting. Once located, the infant instinctively sucks on the nipple for nourishment. Other reflexes that neonates are born with include the palmar grasp (grasping an item placed in their palm), the Babinski response (the toes spread when the bottom of the foot is stroked), and the Moro reflex (a startle response that includes a tendency to extend the arms and legs widely and then pull them back in toward the body as if to grab on to a caregiver; this often occurs in response to loud sounds and/or sudden bumps when the infant feels unsupported). As neonates develop into infancy, they begin to lose some of these early reflexes.

Sleep and Nutrition

Neonates receive their nutrients through either breast milk or infant formula (most often derived from cow's milk). The American Academy of Pediatrics (AAP) and the World Health Organization (WHO) both recommend breast milk over infant formula whenever possible as the preferred form of nutrients for neonates. Breast milk offers additional health benefits when compared to commercially made infant formula, including providing antibodies that reduce the risk of many diseases and lowering the risk of respiratory infections and ear infections. There is also evidence to suggest that breastfeeding protects against childhood obesity, sudden infant death syndrome (SIDS), allergies, and diabetes as infants develop. During the first few days after birth, breastfed neonates receive colostrum from their mother while her body is producing breast milk. Colostrum is

thicker than breast milk and is high in nutrients and disease-preventing proteins. It helps to protect newborns during their first vulnerable days.

Neonates spend the majority of their time sleeping. Initially this is 16 to 20 hours in a 24-hour period, but the amount of needed sleep gradually decreases as they grow. Sleep of newborns is not organized into day/night cycles. Neonates sleep for periods of 15 minutes to 4 hours around the clock, waking to be fed or have other basic needs met. Typically, young infants do not go longer than 4 hours without needing nourishment and they communicate this need to their caregiver through crying. Individual variations in the feeding, sleep cycles, and crying of neonates are due to a variety of factors including their health, individual temperaments, and caregiving environments. When awake, healthy neonates differentiate their time into several different states including drowsy, quiet alert, active alert, and crying. The quiet alert state is the most optimum for learning and development to occur. In this state, newborns observe their world and take in new information through the use of their senses, making it the optimal time for interactions with caregivers.

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See also Breastfeeding; Home Visitation With Mothers and Infants and Children; Infant–Parent Relationships; Neonatal Behavioral Assessment Scale; ZERO TO THREE

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NEUROSCIENCE AND EARLY EDUCATION

Neuroscience and early education brings together researchers from several different disciplines, such as neuroscience, educational psychology, educational theorists, and early childhood education, to investigate the importance of brain functioning and education and how they work together. There are windows of opportunity within the brain when optimum learning takes place. It is important for educators of young children to know when and what type of learning should be introduced and taught during these windows of opportunity. By understanding how the brain learns, the information gleaned enhances learning in young children and increases the development of social, emotional, and cognitive development.

Overview

Characteristics that are commonly identified as relevant to early childhood education are any learnings, guided or through discovery, that take place in the earliest part of life, beginning at birth and continuing through third grade. These years support the most basic of needs, including security, social interaction, language acquisition, cognitive functioning, large and small muscle development, and social/emotional skills. These basic functionings are learned as infants and are strengthened to continue successfully through discovery, both guided and unguided, and throughout future learning.

Nature versus nurture can affect the ways that a child learns along with environmental factors, such as poverty or low socioeconomic backgrounds; lack of proper parenting; poor diet; and physical, verbal, or emotional abuse, as well as neglect. These factors can make learning difficult.

The study of neuroscience allows for intervention and remediation in making changes in behavior and in missed learning opportunities to aid the child in recovering from some of these factors. Over the years, researchers have discovered that our experiences shape the way the brain functions. By studying the brain, researchers have learned what is innate and what is learned. This information helps support interventions and helps the brain rewire itself as remediation takes place with learning. It also shows us how to support the missed opportunities to retain information.

Research

Even though information about neuroscience is growing, it is important to remember that it is a new and ever-evolving field. As parents and educators, it is necessary to be sure that the information gleaned is current and reputable. There is much information available that has been proven to be untrue or is out dated. These “neuromyths” can cause more harm than good when it comes to educating young children.

Infant brains produce a trillion more synapses than do adult brains. From birth through around the age of 3, a child’s brain is growing at a very rapid pace. By the age of 3, 90% of a child’s brain has developed (Szalavitz & Perry, 2010). This period is when 50% of all human learning occurs. As the brain is stimulated, brain circuitry is developed and the brain strengthens the synapses. Synapses that are not being sufficiently used will die off. Lack of adequate stimuli during this time can result in abnormal brain development.

Jensen (2005) suggests that children learn material quickly and easily between the ages of 4 and 10. The brain is predisposed to learning. The more opportunities and enriched experiences a child has, the better the results are for building a strong foundation for learning. These complex learning experiences have positive effects that can last a lifetime.

The brain’s ability to change and shape itself is referred to as “plasticity.” This ability allows for it to change and adapt to the environmental stimuli. Each experience a child has can have either a

positive or a negative impact on him. Timely intervention can allow for the brain to recover from potentially damaging effects.

Some of the major research results specific to neuroscience and early childhood include the following:

- Noted brain differences between typical and atypical developing children
- Relationships between brain development and language acquisition in infants and toddlers
- How nature and nurture are intertwined and how this intertwining affects young children
- Influences of early brain development and considerations for early literacy for children who are considered at risk
- How brain development is applied in brain-based education
- Identified brain differences in children diagnosed with autism spectrum disorder when compared to typically developing children
- Ways that information about brain development is related to learning to read
- Information about brain development and twice exceptional (gifted, with a disability) young learners
- Moral and ethical concerns about using neuroscience to teach young children
- Effective strategies for teachers to implement related to brain development

Brain Development

The use of brain imaging technologies such as functional magnetic resonance imaging (fMRI), computerized axial tomography (CAT) scan, position emission tomography (PET) scan, and electroencephalography (EEG) are just a few of the ways that science is able to use brain imaging to have a “window” into the brain. Educators are just beginning to use the information from these technologies to assist them with further understanding of how the brain is stimulated. These procedures were formerly used strictly for medical purposes, but now educational researchers are beginning to use this information to gain more knowledge about the brain’s activity.

The brain is divided into two hemispheres. Each hemisphere is divided into lobes. Each lobe has a specific job to do; but due to the complex nature of the brain, when one lobe is not doing its job another lobe tries to compensate to help to do the job of the other lobe. The four lobes are frontal, parietal, temporal, and occipital. The frontal lobe is responsible for emotions, reasoning, parts of speech, and planning. Creativity, problem solving, and impulse control are also based in the frontal lobe. The parietal lobe has to do with senses and sensory input: taste, touch, pain, pressure, temperature, and spatial relations. The temporal lobe is responsible for hearing, language, and memory and processing auditory stimuli. The occipital lobe includes visual processing, vision, recognizing objects, and perception of light, colors, curve, and lines. Brain development happens differently and at differing times for each of the four lobes.

Interventions

Neuroscience cannot tell us how to care for children, but if the information gleaned from years of research is used wisely it can show us a different way of using intervention to help to provide for the critical periods of learning. Windows of opportunity should be used to teach children for optimal results. In order to do that, one must understand what types of learning should be taking place at each critical period. Being able to begin with what the child knows and building upon this prior knowledge or personal connection allows for optimal retention of information. Best practices should also be used when teaching anyone regardless of abilities. Remediation and intervention can happen at any period and at any age but is the most successful the earlier the potentially damaging effects are identified.

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See also Approaches to Learning; Brain Development; Child Development and Early Childhood Education; Cognitive Developmental Theory; Early Childhood Education; Thinking

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NONCURRICULAR PLAY

In *Being a Boy*, Charles Dudley Warner described recess in late-19th-century New England schools as a shining light in a school culture characterized by discipline and weariness. Children expect to receive a respite from the rigors of the school day in the form of outdoor recess. School recess periods provide children with opportunities to engage in freely chosen activities with their peers and are recognized cross-culturally as an important

component of the school day. In China and Japan, for example, students are offered recess breaks between formal lessons, and in the United Kingdom preschool children are offered periodic breaks from the early childhood classroom. This entry examines the benefits of noncurricular play, including its academic, emotional, social, physical, and creative benefits. This entry also considers why there was a decline in noncurricular play beginning in the 1980s.

Reasons for Optimism

There are reasons to be optimistic about the state of recess in the United States. One positive is the number of government agencies, multidisciplinary associations, and professional organizations championing the importance of recess for whole child development (cognitive, creative, emotional, physical, social) through various statements, policy recommendations, and initiatives. These include the American Academy of Pediatrics (AAP), the Association for Childhood Education International (ACEI), the Centers for Disease Control and Prevention (CDC), the International Council for Children's Play (ICCP), the International Play Association (IPA), the National Recreation and Park Association (NRPA), the National Association of Elementary School Principals (NAESP), the National Association for the Education of Young Children (NAEYC), the Society for Research in Child Development (SRCD), and The Association for the Study of Play (TASP).

In addition to the organizations supporting recess and child-initiated play, empirical research documents its benefits on whole child development as well. Although the recent trend in many schools has been to reduce or eliminate recess in order to increase time for academic preparation and improve academic achievement, empirical research does not support the elimination or reduction of recess for these purposes.

Theories Supporting Recess

Rationales for promoting recess as a vital element of the school day are supported by two complementary

theories. The first is related to the idea of massed versus distributed practice. Distributed practice advocates the distribution of academic learning over an extended period of time. When forced to work continuously without a break, the brain becomes less efficient. Therefore, distributing workload for challenging cognitive tasks has been shown to improve achievement, attention, recall, learning, and productivity.

The second, cognitive immaturity theory, holds that the developing nervous system and lack of life experiences make it difficult for children to perform challenging cognitive tasks as well as adolescence and adults. This holds that children should perform best and be more focused when offered recess or a similar activity break between challenging cognitive tasks.

Benefits of Recess for Whole Child Development

Scientific research holds that recess is a vital component of the school day that offers many benefits for whole child development. In a 2000 report, the CDC defines recess as time offered daily for child-directed physical activity and play. Other common characteristics of recess include that it provides a necessary break from the rigors of the school day; it is the favorite school activity for many children; it occurs daily; it stimulates the senses and invigorates the spirit; it enlivens the soul; it allows children to interact freely and is unstructured in nature; it is child-directed; it often occurs outdoors; it is a child rights and social justice issue; it often lasts 15 to 20 minutes, but it decreases as children age; it is less available to children of low socioeconomic status in urban settings; it is often combined with lunch; and it should be supervised. The following is an examination of the positive outcomes realized when children participate in school recess on a consistent basis.

Academic and Cognitive Benefits. Following a recess break children are more attentive, raise their hands to participate more frequently, and are better able to perform cognitive tasks.

Social Benefits. In 2010, the CDC reported that recess promotes social competence and development in children. The social interactions fostered during recess provide the time necessary to adapt and adjust to the complex school environment.

Emotional Benefits. In a 2009 study, Romina M. Barros, Ellen J. Silver, and Ruth E. K. Stein found healthy friendships to be integral in improving a child's ability to cope with transitions from preschool to elementary school.

Creativity Benefits. A 2007 study by Godwin S. Ashiabi found that schools encouraging pretend play at recess reported children with greater amounts of imaginativeness and enhanced curiosity.

Reasons for Pessimism

Research documents an alarming trend to reduce recess over the past 30 years. Michael M. Patte has found the trend of decreasing time for daily recess and increasing time for academic preparation began in the late 1980s. Others have reported that some 40% of American elementary schools are eliminating or reducing recess time to prepare students for state and national assessments, especially in urban centers with large numbers of children from underrepresented populations. To highlight this, Susan Ohanian has reported that urban schools in Atlanta constructed schools without playgrounds to demonstrate their commitment to high academic standards.

Conclusion

The National Center for Educational Statistics reports that 55 million U.S. students attend public and private elementary and secondary schools each day. During the past 30 years a concerning trend to reduce or eliminate recess from the school day has impacted more and more of these students. Despite this trend, recent theoretical and empirical research suggests that recess plays a vital role in whole child development. Further, research

has indicated that eliminating recess may have negative effects on academic achievement and is associated with many negative outcomes for children.

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See also Child Development and Early Childhood Education; Outdoor Play Spaces; Peers and Play; Play, Curriculum, and Pedagogy; Play and Early Childhood Education; Play and Early Writing; Recess

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NUTRITION

Appropriate nutrition is vital to the growth and development of young children. In addition, the importance of eating experiences within early education and care settings cannot be overstated. Educators interact with young children during meal and snack times as children practice fine motor and social skill development, learn about science, and establish healthy habits. This entry examines four concerns that are of great relevance to children in early care settings: (1) nutrient and food needs, (2) the influence of the early care setting, (3) nutrition recommendations, and (4) best nutrition practices.

Key Concepts in Nutrition

In order to explore the importance of nutrition in early care settings, it is helpful to define the key concepts used by nutritionists. Nutrients are constituents of foods needed to sustain life. Foods are nutrient-containing items that are eaten, such as rice or tomatoes. We can group foods into categories: grains, vegetables, fruits, dairy, and protein. Energy intake refers to the consumption of foods and beverages that contain calories. Carbohydrates, fats, and proteins are nutrients that provide energy. Although vitamins and minerals do not provide energy, they are essential for optimal body function. Energy expenditure refers to energy that is spent to sustain life, digest food, support growth, and allow movement. In children, energy balance refers to the balance between energy spent and consumed; this balance results in healthy growth without development of excess body fat.

Developmental Need for Nutrition

Early childhood is a time of substantial growth and development. Thus, the need for high-quality food is crucial. Young children are particularly at risk for iron, calcium, zinc, or vitamin D deficiencies. However, children's total energy needs are substantially lower than those of adults. Since

young children need many nutrients but little energy, each meal should contain an assortment of nutrient-dense foods that provide a lot of nutrition but few calories (e.g., many vegetables, and few energy-dense foods with low nutritional value and high calories, such as candy). Overconsumption of energy-dense foods can lead to the development of overweight and obesity conditions that coexists with nutrient deficiency—this is known as the nutrition paradox.

The Influence of the Early Care Setting

Food preferences are established during early childhood. The greater the variety of foods that children eat at a young age, the more varied the foods they will eat as they get older. Since young children naturally prefer sweet and salty foods that are often low in nutrients, caregivers need to work diligently to provide opportunities to taste and eat nutrient-dense foods. The early care setting has the unique opportunity to complement parents by regularly providing a wide variety of healthy foods from many cultures. Although children who are picky eaters (i.e., children who exhibit signs of food neophobia) have preferences for fewer foods, caregivers can provide repeated exposures (between 8 and 15 times) to increase the acceptability of novel and less favored foods.

The influence of the early care setting is greater than that of just the foods that are provided, since staff, learning experiences, and peers all contribute to foods that are consumed. While teacher modeling alone does not appear to increase intake of fruits and vegetables, modeling coupled with encouraging phrases (e.g., “I love my peas, they are healthy for me”) does increase consumption. Moreover, peers are effective role models, although perhaps more so for girls. Serving appropriate portion sizes can also influence food consumption. Allowing children to serve themselves facilitates appropriate portioning. Influencing children’s consumption of healthy foods also occurs outside of meal times. Active participation in stories about healthy foods and participation in gardening and growing fruits and vegetables increase children’s intake of more nutrient-rich foods.

Food and Nutrition Recommendations

Although food information and recommendations are intended to support caregivers, the volume of information and recommendations can be intimidating and confusing. The United States Department of Agriculture (USDA) supports a meal reimbursement program for low-income children, the Child and Adult Care Food Program (CACFP). The CACFP recommends portion sizes for each food group for children ages 1 to 2 and 3 to 5 years. Portion sizes for young children are about half those recommended for adults. State requirements based on Head Start regulations indicate that children attending part-day care should receive one-third of their nutritional needs at the care center, whereas children attending full-day care should receive one-half to two-thirds of recommended daily requirements.

The Dietary Reference Intake (DRI) states the range of energy and nutrients needed for each life stage. Those grams and micrograms can be challenging for people to interpret and use in their daily lives. Thus, they have been incorporated into the Dietary Guidelines for Americans, developed by the USDA, which focuses on foods, food groups, and key nutrients such as salt. The USDA also developed MyPlate. The plate image, which is divided into five proportional sections, helps people more easily incorporate the USDA’s Dietary Guidelines into their life. Energy intake recommendations range from 1,200 to 1,400 kilocalories for 3-year-old children to 1,200 to 1,600 kilocalories for 4- to 5-year-old children. These recommendations are based on a child’s level of physical activity; as a child becomes more active, more energy intake is needed to achieve energy balance.

Best Practices for Nutrition and Physical Activity

Selected standards for early care settings from the Caring for Our Children: National Health and Safety Performance Standards benchmarks from the Academy of Nutrition and Dietetics position statement are highlighted as follows:

1. Facilities should develop and provide to staff and families a written nutrition plan and menu developed by a qualified nutritionist.
2. Facilities should acquire special nutrition or feeding modification needs.
3. All meals and snacks provided should meet CACFP standards.
4. Healthy, low-fat foods should be offered daily by the facility.
5. High-energy foods with sugar and foods high in sodium should be limited at the facility.
6. Children should be offered food at least every 3 hours and be allowed adequate time to eat.
7. Water should be available, indoors, outdoors, and throughout the day.
8. Facilities should support breastfeeding, with a designated place for nursing or pumping.
9. Infants should be fed by the same caregiver whenever possible, and should be held during feeding; they should not be fed in the crib or propped up.
10. Meals should be served and eaten family style, while caregivers encourage children to eat healthfully and listen to satiety cues.
11. Caregivers should engage in nutrition education with children.
12. Toddlers and preschoolers should be allowed 60 to 90 minutes of outdoor play.
13. Two or more caregiver-led activities should be incorporated throughout the day.
14. Caregivers should promote active play by encouragement and participation.
15. Screen time should be limited.

These benchmark standards are the foundation for early care settings to prevent child obesity and encourage the development of healthy eating habits and behaviors of young children. All facilities are encouraged to develop action plans and work toward achieving these benchmarks.

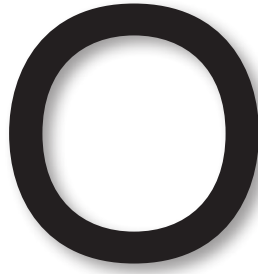
Susan B. Sisson

See also Breastfeeding; Child Care; Child Development and Early Childhood Education; Head Start; Movement Education; Obesity Prevention

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OBESITY PREVENTION

As of 2012, nearly 23% of children ages 2 to 5 years in the United States were considered overweight or obese. Children who are obese are at risk of serious health issues, including type 2 diabetes in childhood, and heart disease in adolescence and adulthood. This problem is not isolated to the United States, but can be found in all developed countries and many developing countries. Early childhood is clearly the time to begin to address this epidemic.

Factors Contributing to Obesity

There are three general factors that have led to the obesity epidemic:

1. Unhealthy food choices
2. Lack of adequate physical activity
3. Overall lifestyle behaviors, in early childhood programs, the home, and the community

To significantly address childhood obesity, all three areas must be comprehensively targeted. In early childhood programs, healthy food choices, adequate and regular physical activity, and a daily routine that requires physical activity are directly under the control of the program; family and community lifestyle choices are not. However,

programs can impact these areas by working closely with families and communities.

Addressing Poor Food Choices

In early childhood programs, unhealthy food choices include (a) too many salts, sugars, sodas, fruit juices, and other unhealthy foods and ingredients; (b) serving children too much to eat at meal times; (c) using sweet foods as bribes to eat “healthy food”; and (d) providing no access to food between regularly scheduled meals.

Programs need to monitor the foods they introduce, provide healthy options for the children, and work with families to help them understand the reasons healthy food choices are so important. Sugary treats, juices, and sodas should not be used for celebrations, as this creates an association between unhealthy food and having a good time. Children can cook healthy snacks with teachers for celebrations, if need be. Experts suggest children help to prepare foods; further, having a garden within the program (or within a community garden) can help children know where food comes from and how to grow it. The more children are involved in growing and preparing a meal, the better.

Programs can encourage children to serve themselves by providing food and drink in manageable containers. Small utensils, jugs, and other items need to be provided. Children should begin with small amounts of food on their plate; they can always add more, if needed. This develops skills in

portion control and in trying new foods, and children learn to regulate food and caloric intake. Adults should sit with children at the table and eat and drink the same foods as the children. This enables adults to model healthy food choices. Programs that cannot provide family-style meals can at least serve small portions and encourage children to ask for seconds if needed. Children should never be coerced to finish what is on their plate, or told to eat certain foods and then be rewarded with dessert.

Increasing Physical Activity

Young children are naturally active. In fact, some experts believe young children are preprogrammed to engage in certain levels of activity, and to consume enough calories to fuel this activity. When physical activity is reduced, these calories become fat. Thus most physical activity in the program should be unstructured free play, both outside and inside, such as games, climbing on play equipment, balancing, and running. Additionally, dance, gymnastics, simple games, and so on can be taught on a regular basis.

However, two concepts should be kept in mind: (1) the activities must be pleasurable, in order to develop a lifelong disposition toward physical activity, and (2) until ages 7 to 9 (concrete operations period), most organized games should not be taught. In all cases competition should be deemphasized, and children should not stand around watching others play.

Changes in Lifestyle

In early childhood programs, changes can be made to the daily schedule to help children develop a healthy lifestyle. These changes include the following:

- Physical activity occurring throughout the day, and during the teaching and learning of academic subjects (e.g., using physical activity to teach math concepts).
- Healthy food choices made available and modeled throughout the day.

A climate needs to be created where physical activity is viewed as the optimum way to learn, as opposed to passivity and sedentary behavior. This requires a radical shift in how children's behaviors are viewed, and how the day is organized. Children's active, physical, and dynamic movements need to be encouraged; attempts at controlling behavior should focus on safety and the security of others. Active children should never be punished by denying them the opportunity to be active and to play outside. Further, the concept of "appropriate" and "inappropriate" behaviors to label children with attention-deficit/hyperactivity disorder (ADHD) must be seriously challenged. Adjustments can be made to the environment and curriculum prior to a diagnosis of ADHD or another disability to see whether these changes can modify the child's behavior. Young children—especially boys—are naturally active, spontaneous, and have short attention spans. Increased academic expectations often pressure teachers to have inappropriate expectations of young children. Frequent physical activities, kinesthetic learning opportunities, and ongoing outdoor experiences work well with these children. Teachers should not use a disability label, such as ADHD, for any child who has not been formally diagnosed; once diagnosed, these labels should still not be used in public discourse around parents and other children.

Encouraging healthy food choices in early childhood programs means providing lots of vegetables and fruits, and the opportunity to snack on vegetables and fruits between meals. One reason some children overeat—particularly children from poor countries or those who do not get enough to eat at home—is because they do not know when the next meal will come; they need to know they can snack between meals.

Challenges in Modifying Early Childhood Programs

Challenges in modifying early childhood programs to address childhood obesity include budget priorities that focus on technology and traditional learning materials, rather than challenging and safe playgrounds and indoor environments that

encourage gross motor activities; a focus in staff training on pre-academic skills (such as learning letters and numbers) and discipline; and early childhood education standards that focus on development of academics and on teaching adult-expected behaviors. In developing early childhood policy, consideration should be given to providing funding for equipment that helps children be active, training staff to encourage healthy food choices and physical activity, and changes in standards to emphasize physical activity and the arts in the early years.

Working With Families and Communities

The focus of this entry is on how early childhood programs can impact childhood obesity. However, families and communities have an important role to play in addressing the obesity epidemic. Early childhood programs can be a good role model, communicate to families, and engage the community in a variety of activities to enhance a healthy lifestyle. Most urban communities have a variety of community gardens and farmers markets, and many playgrounds, parks, trails, greenways, and sports venues that can be accessed by families to provide a healthy lifestyle for their children.

Francis Wardle

See also Attention-Deficit/Hyperactivity Disorder; Child-Initiated Play; Movement Education; Rough and Tumble Play; Standards

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OBJECTIVITY AND SUBJECTIVITY IN ASSESSMENT

Objectivity and subjectivity in assessment refers to the nature of data gathered through an assessment process. Objectivity defines information that is collected through measuring, observing, and examining facts. Subjectivity describes information that is based on personal views, opinion, or value judgments. Some researchers view objectivity and subjectivity as opposites, while others suggest that they are at either end of a continuum. All assessments fall somewhere on this range. Typical assessments in early childhood include observational assessments, analysis of children's work, developmental screenings, and standardized tests, to name a few. Every assessment will have some characteristic of objectivity and subjectivity. This entry describes both objectivity and subjectivity and the relationship of this continuum to assessments in early childhood education.

Objectivity

Objectivity is the ability to see things without being influenced by personal feelings, emotions, or judgments. An objective assessment is based on evidence or facts. Assessments that are considered objective have a right and wrong answer that will be evaluated in the same way for every person assessed. Multiple-choice questions, true/false items, or matching activities are categorized as objective.

In early childhood classrooms, observational assessments and analyses of children's work are to be collected with objectivity. Anecdotal records,

running records, or captions on work samples are to be written without judgment to describe only what is observed. Standardized tests are also characterized as objective because they are administered and scored with the same protocol for every individual. Some assessment tools used in early childhood are created with objectivity, but require some element of subjective interpretation.

Subjectivity

Subjectivity is the personal interpretation of a situation and is usually based on feelings or opinions rather than facts. Collection of information about a child's development, skills, or knowledge can be influenced by the personal relationship a teacher has with an individual child. Similar behavior (saying "no!" to a request) exhibited by two different children can be interpreted subjectively (as "defiant" or "courageous" or "self-assured"). The choice of evaluation methods can also be guided by an individual's experience, feelings, and biases.

The very foundation of the work of early childhood professionals is guided by subjectivity. Building relationships is subjective work, based on feelings, intuition, and perception. The continuum of objectivity and subjectivity in assessment is a critical aspect to be considered.

Objectivity and Subjectivity in Early Childhood Assessment

The early years in a child's life are marked by great variability and change. Development is not a smooth process. Rather, a child's physical, social, emotional, moral, cognitive, and language development is characteristically uneven, with starts and stops that can influence the outcomes of any assessment. These inconsistencies underscore the delicate nature of assessing young children.

Because young children do not have the capacity to perform accurately on paper-and-pencil tests, evaluation of what a young child knows and can do relies heavily on the individual completing the assessment. The person administering the assessment brings his or her own biases, usually unknowingly, to

the experience. These prejudices can influence how the outcomes of the assessment are perceived, recorded, interpreted, or documented.

Reliability and validity are two key characteristics of early childhood assessments. Reliability describes the consistency of an assessment tool and how it measures when repeated time after time. Reliability can be affected by external factors such as the testing environment or scorer of the test. It can also be shifted by the aspects of a child's disposition: wakefulness, attention, or hunger. The younger the child, the more dramatic these effects may be.

Validity describes how well an assessment measures what it is intended to measure. Determining if an assessment has validity is the first step in determining if the information gathered will be useful. When an assessment tool is created, its validity is established by how it is designed and how the purpose is defined.

Objective assessments are not immune from subjectivity. The individuals or groups creating or writing the assessment bring their personal, professional, and cultural backgrounds to that experience. This may unintentionally impact the assessment, especially if a child is an English language learner or has some impairment. To ensure that the most accurate and appropriate decisions are made about children and about programs, early childhood educators must become aware of their subjectivity when administering or interpreting assessment results.

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See also Assessment, Limitations of; Authentic Assessment; Ethics in Early Childhood Education; Multiple Methods of Assessment; Observational Assessment; Standardized Assessment

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OBSERVATIONAL ASSESSMENT

Internationally, assessment of young children is an increasingly important topic, as many governments become concerned about their investment in early childhood education and seek evidence on outcomes of investment. One example is Head Start in the United States, a program that is federally funded to ensure that children growing up in poverty receive high-quality early childhood education and are prepared to start school. This is the policy initiative developed to close the gap of economic disadvantage. Significant focus has fallen on validating scientifically based assessment that will demonstrate requisite Head Start program outcomes have been achieved and that children are making progress across the range of developmental domains.

One assessment measure is the Preschool Child Observation Record, Second Edition (COR-2), a widely used early childhood assessment of multiple domains that are important for school readiness, although implementation has been found to be problematic, according to Katherine M. Barghaus and John W. Fantuzzo. Alice Bradbury argues that the use of formal assessment systems with young children is unusual, but use in the United Kingdom with 5-year-olds is consistent with an emphasis on accountability and the “high stakes” assessment systems used in compulsory schooling. Bradbury proposes that a focus on measures of attainment must be tempered with awareness of the complexity of the relationship between assessment and

inequality, particularly in relation to teacher judgments, that are subjective assessments.

The focus on psychometric assessment methods is arguably not as strong in other developed countries as in the United States, but there are signs that such a focus is increasing internationally. Work by the Organisation for Economic Co-operation and Development, reported by Rowena Phair, on designing an outcomes assessment tool that could be used internationally to provide comparative data is evidence of this focus. However, this entry does not focus on the suitability of psychometric assessments to test early childhood education outcomes or on research that examines how quality of early childhood education can be measured using standardized observation; instead, issues of how teachers can use observational assessment for the purposes of formative, summative, and ipsative assessment of young children are explored.

Formative, Summative, and Ipsative Assessment

Renée M. Casbergue cautions, “Belief that assessment is the source of multiple ills in classrooms for young children may lead some teachers to eschew calls for documenting children’s learning and development” (2010/2011, p. 16), but suggests that teachers need to understand the purpose of a range of assessment tools and make wise use of them. She further proposes teachers need to understand the difference between formative and summative assessment. Formative assessment of learning is applied as learning is occurring and is used to guide future learning. Summative assessment provides a summary of achievement at the end of a unit or period of learning. Ipsative assessment involves assessing children’s learning against their own performance, to determine if progress has been made. In the early childhood context, assessment typically uses all three methods, although they may not be identified as such, according to Claire McLachlan, Susan Edwards, Valerie Margrain, and Karen McLean.

The notion of assessment *for*, *of*, and *as* learning is also useful, suggests New Zealand’s Ministry of Education. Assessment *for* learning occurs when

teachers use inferences about children's progress to inform their teaching. Assessment *of* learning occurs when teachers use evidence of children's learning to make judgments about achievement against goals and standards. Assessment *as* learning occurs when children reflect on and monitor their own progress to inform their future learning goals. In the New Zealand context, observation is the only named assessment tool in the early childhood curriculum. Although other countries may not be so explicit about its importance as an assessment tool, it is still a heavily relied upon method of understanding children's learning and development and thus needs to be used well. Effective use of observation is particularly important in contexts where narrative observational assessment methods, such as New Zealand's "Learning Stories," are used.

Use of Observation for Assessment Purposes

There are some common features of observation as an assessment method. These include the following:

- *Direct observation.* It relies directly on what the teacher can see.
- *Fieldwork.* It relies on the ability of the teacher to search directly for information rather than relying on secondary sources.
- *Natural settings.* This method relies on gathering data as they happen, rather than in stimulating behavior or simulating real-life conditions, such as laboratory research. However, a major concern is to avoid disrupting normal behavior; minimizing observer presence is an issue.
- *The issue of perception.* The observer is never neutral and teachers' perceptions of situations can be influenced by personal factors; thus, data collected can be unreliable. It is possible to reduce unreliability, but it is a limitation of the method.

Simon Warren suggests it is impossible to separate interpretation from observation: "what is 'seen' then, is not the real, in the sense of an experience distinct from interpretation"; he argues that "reality is always a moving target, always in the

process of becoming, always already interpreted" (2000, p. 132). Lev Vygotsky made a similar point, arguing that development is always in a state of change—not static and ready to be captured—and as such it is difficult to make judgments about children's learning. Furthermore, Vygotsky's theory has informed research into assessment of children because it shifts the focus from the individual child to what and how children are learning through social interaction within a given context.

It is also useful to consider quantum mechanics and Werner Heisenberg's uncertainty principle when undertaking observation: the act of observing something changes its nature, sometimes called the "observer effect." Apart from the effect of observations on children's behavior, teachers can never be certain that their perception or interpretations of what they see is "real." As part of overcoming the reliability difficulties of assessing young children, Stephen J. Bagnato argues that methods should be "authentic"—that is, based on what children know and can do, use materials that are familiar to the child, be connected to children's learning in other contexts, and use multiple sources of information to capture children's learning at different times or during different activities.

Observation is shaped by perception, including memory, past experience, and the current situation. In terms of memory, people forget most of what they see, but according to Elizabeth Styles there is a pattern to what they recall and it is not random. This is called *selective recall*. Also, the mind filters information, allowing some to pass through and putting up barriers to others, enabling selective perception of "what happened." Finally, perceptions are shaped by teachers' emotional and physical state, so what teachers observe is shaped by current emotions. Thus, being hungry, tired, angry, frustrated, or prejudiced produces *accentuated perception*. Teachers also use a range of filters to help them cope with the perceptual demands of observation, according to Martyn Denscombe:

- *Familiarity.* Teachers tend to see what they are used to seeing. If the situation is ambiguous, it is usually interpreted in terms of past experiences.

- *Past experiences.* Past experience causes teachers to filter out certain “nasty” stimuli or to exaggerate desirable things.
- *Current state.* Physical and emotional states and current priorities can also alter perceptions.

Thus, being healthy, rested, and positive when teachers observe children is ideal, as well as is recognizing the filters that teachers may use to interpret observations, states Bradbury.

Worldviews of Childhood and Observation

Edwards states that many models of observation for young children are based on deficit notions of child development, in which teachers make comparisons of individual children against universal stage theories of child development. Furthermore, recent “postdevelopmental” thinking about childhood, drawing on sociology, poststructuralism, and postmodernism, challenges the idea that children’s learning occurs in separate domains and occurs at particular ages and stages, according to Andrea Nolan and Anna Kilderry. Although many teachers value the broad parameters developmental theories provide for assessing children’s learning, most are inadequate for explaining development of children from diverse cultures. A postdevelopmental perspective suggests teachers view children’s learning as part of their “being” in the moment, rather than what they are “becoming,” emphasizing multiple ways of thinking about children and childhood. Rather than conceptualizing one “true” way to understand how children learn and develop, teachers need to understand children’s families and communities and draw on local representations of how children learn and develop.

To understand the complexities of children’s learning, teachers need to engage in regular observation so they can identify children’s strengths, interests, preferences, and needs—assessment of learning difficulty being a child’s right in order to gain access to further support. Teachers can identify, through regular observation and reflection,

key areas in which they need to support children to learn and develop.

Types of Observation

Denscombe argues that there are essentially only two types of observation:

1. *Systematic observation:* Methods that fall into this category typically gather quantitative data and involve the use of statistical analysis.
2. *Participant or nonparticipant observation:* Typically methods used produce qualitative data and usually involve teachers observing children as they work with them.

There is a range of commonly used observation methods, which include the following:

- *Structured observations*—a predetermined checklist of things to observe.
- *Anecdotal or instantaneous sampling*—observing something that teachers think should be observed.
- *Event sampling*—a particular event is observed (e.g., settling routines for new children).
- *Critical incident sampling*—observations of the setting and context of a particular regular occurrence (e.g., a child biting).
- *Time sampling or interval recording*—observations at predetermined time intervals or where a regular interval of observation is undertaken (e.g., to examine use of a new play corner).
- *Rating scales*—an environment is observed against a set of predetermined criteria on a scale (e.g., Early Childhood Environment Rating Scale–Revised [ECERS-R], Harms, Clifford, & Cryer, 1998, to review center quality).

Barbara Rogoff proposed that observations and interpretations can be framed through three lenses:

- Personal (the child on its own);
- Interpersonal (the child in relation to others); and
- Contextual and institutional (features of the environment in which the child is learning).

It can be useful to frame observations using a three-dimensional or multifaceted approach, as this yields greater information about the child in context. Casbergue calls this “situated assessment” in which teachers capture learning in the context of everyday activities. Items to observe include the following:

- The physical setting—environment and organization
- The human setting—the people and their composition
- The interactional setting—types of interaction taking place
- The program setting—resources, organization, pedagogic styles, and curriculum

Assessment of children’s learning and development in such a way yields richer information that can be used for individual assessment and curriculum planning.

Issues and Challenges of Observation

A number of issues need to be considered in observational assessment. The first issue is *purpose*: Are teachers observing an individual child or a group of children? Teachers need to answer a range of questions that the decision to observe highlights: who, what, why, when, how, and where am I observing? The second issue is *location*. Observers need to have a clear view and to easily hear what is being said by the child or children. If observing in a large area, it is useful to divide the space into areas or enlist help with observations. If another observer is used, prepare a record sheet, so both observers are looking for the same things. The third issue is *timing*: Teachers need to ensure that there is enough time in center routines to gather sufficient observation data; it is also important to decide how many observations are needed. *Preparation* is important: A planned record sheet, which includes time, location, data, observer, area, behaviors, or events, and any other contexts or purposes of the observation, is valuable as part of collecting assessment data.

It can also be useful to video-record or audio-record, but this introduces another element of “observer effect,” states Denscombe. To observe learning and development over time, it is important to plan how often observations will be collected and how they will be used. Sally Featherstone argues that centers should have long-, medium-, and short-term plans for gathering assessment data, including observations, so that systematic collection of data is made possible and is integrally linked to curriculum planning, according to McLachlan, Marilyn Fleeer, and Edwards.

Observation is a powerful assessment tool, but comes with a set of caveats around how far teachers can trust what they have seen with their own eyes. Teachers need to remember that everything they see is an interpretation and not “the truth”; other measures are required to ensure reliability. Observation is more useful if it is done over time with the same child or group of children so more “authentic,” states Bagnato, assessment data can be collected. Observation is a fundamental assessment tool in early childhood settings. Used carefully and with understanding of its limitations, it can be a powerful tool to have in a teacher’s assessment toolkit.

Claire Jane McLachlan

See also Assessment of Play; Authentic Assessment; Child Observation Record; Equity and Equality in Early Childhood; Teacher Beliefs; Teacher Materials for Documentation

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ORAL LANGUAGE DEVELOPMENT

Expression through oral language is one of the toddler's and older child's most remarkable accomplishments. Although talking is often considered a natural phenomenon, learning to talk requires time and proper brain development, along with practice in the child's everyday situations. Because language provides the foundation for all later literacy learning, an understanding of the ages and stages of oral language acquisition is critically important. Equally essential is the caregiver's knowledge of the strategies that adults and peers can enlist to facilitate the child's language development. This entry addresses ages and stages, as well as several recommended strategies, for eliciting optimal oral language development.

Ages and Stages of Oral Language Development

Oral language is used to explore, communicate, ask and answer questions, problem solve, hold conversations, form friendships, and learn about the self, others, and the world. From birth until age 5, the child's development progresses more rapidly than at any other phase in the life span. According to researchers Jill and Peter de Villiers, the infant and child progress through several stages of language development. These stages seem universal and are considered largely innate, since they develop at predictable ages and stages among infants and children throughout the world. The physical development of the brain is largely coordinated with, and responsible for, many components of the infant's and child's language development.

However, the paramount role of nature notwithstanding, one cannot dispute the role of nurture in the development of the child's oral language. For example, John Bowlby, a researcher who studied mother–infant attachment, has found that infants provide many clues to their mothers to signify their willingness to engage in primitive conversations. Infants convey their specific needs and desires through body language and the use of gestures, cooing, facial expressions, crying, smiling, and gurgling. In turn, their caregivers respond with smiles, attention, cuddling, feeding, and simple “conversations” with their infants. This consistent type of caregiver–infant communication supplies the infant with the trial-and-error practice that facilitates socialization, oral language, and later conversations with others.

The following specific ages and stages of language development draw upon works by the New York University Child Study Center and Beverly Otto, and provide general norms for infancy through Grade 5. Caregivers and teachers of young children who become familiar with these stages are able to play, converse, and plan daily activities according to infants' and children's language development levels and their related needs.

6 Weeks: Cooing. The infant attracts attention of caregivers, family, and friends by cooing. Beginning with vowel sounds, the infant uses its tongue, mouth, lips, and open mouth and throat to form sounds including /aaal/ (as in apple), /ooool/ (as in ostrich), /ahhhhl/, /ohl/, and /ohl/. For the new language learner, vowels precede consonants because consonants require a more sophisticated type of articulation.

4 to 6 Months: Babbling. At 4 to 6 months of age, the infant combines consonant and vowel sounds through babbling. For example, the infant makes repeated sounds using the same consonant–vowel combination, such as *ba-ba-ba* or *da-da-da* or *na-na*. This early babbling usually does not yet represent real words; however, when caregivers repeat the babbling with the infant, they encourage infants to continue to experiment with

the sounds and provide language role modeling for them.

8 to 10 Months: Echolalic Babbling. This type of babbling is so named because it reflects and repeats the speech rhythms and intonations of the adults in the child's environment. For example, the adult says, “NICE, dog,” and the infant repeats, “NI-noh.”

1 Year: One-Word Stage. The infant's eagerly awaited first words most often appear at around 1 year of age. The child may call his father “*Da-Da*” or his mother “*Muh-Muh*.” Language becomes more stable at this one-word stage. The infant may use a special sound or word to consistently refer to the same object or person, such as calling a blanket “*ba-ba*.” The family cat might be “*ca-ca*.” A vocabulary of approximately three or four clearly spoken words develops now.

2 to 3 Years: Telegraphic Stage. The child's vocabulary rapidly expands to approximately 300 spoken words. “*Go bye-bye*,” “*Mommy, NO*,” and “*Bad kitty*” are examples of simple combined words typical of toddlers in the telegraphic stage of development. As children string words together, they begin to form the foundation for more complex sentences. The beginnings of *syntax*, the ordering and combining of words to make sense in a sentence, appears at this stage. The child refers to self by name and begins to ask many questions now, such as “*What's that noise?*” and “*Where's Daddy?*” The child's identification of common actions (*run, sing, climb*) and the labeling of body parts are common now, as is the child's ability to name word opposites such as *good–bad, up–down, and big–little*. The young child enjoys listening to short stories and identifies characters and objects in the storybook.

3 Years: Interactive Stage. Language expresses basic needs and feelings through the rapidly expanding spoken vocabulary. The child speaks in three- to four-word sentences, and an understanding of grammar surfaces. Oral language becomes a key that enables the child to interact with others in many diverse ways. Now the child may add to your

comments, answer your questions coherently, tell you about his or her plans, relate observations, recite simple poems, sing short songs, tell you a story, count from 1 to 10 or higher, and name several colors. The child asks many questions now and produces more advanced sounds easily, including /m/, /p/, /t/, /d/, and /w/.

4 to 5 Years: Connected Sentences Stage. Children at this stage of development enjoy dramatizing stories they have heard or seen, such as *Goldilocks and the Three Bears* and *The Three Little Pigs*. The singing voice becomes more in tune, and children can now recite and sing the alphabet with relative ease. They enjoy sharing ideas, silly jokes, plays on words, and short rhymes. The child clearly answers questions and follows a series of three commands with an unrelated theme, such as “*Get the milk, close the front door, and put on your hat.*” The child sustains attention to a story for 20 minutes or longer and recalls its four- to six-part sequence. The child speaks in four- to five-word sentences.

Age 5: Pragmatics Stage. The child at age 5 begins to use more variety in speech and the use of *prosody*—the rhythm, stress, and intonation of speech—improve.

Use of plurals and tenses become correct. The child enlists *semantics*, the ability to combine sounds (*morphemes*), to denote meaning to a word. For example, the child adds an “s” to the end of sock to pronounce the word “*socks.*” The child is able to produce rhyming words, such as *bake* and *cake*. The child can now identify the number of syllables (or claps) in a word, isolate one sound from another, and discriminate between various sounds. These skills demonstrate *phonemic awareness*, the awareness of sound structures of words, which plays a key role in the child’s readiness for reading, according to research published by the National Reading Panel.

Strategies for Promoting Oral Language

Although children’s language development follows several predictable stages, as discussed in the previous

section, specific rates of language development and language usage are as unique as individual children. As adults attempt to scaffold children’s language development, they may enlist the following strategies to promote motivation and readiness for optimal language development, including expression, vocabulary, comprehension, prosody, and communication. Strategies for children with special needs are embedded within the following suggested strategies; however, the advice of a specialist is needed if the child is unresponsive, is overly difficult to understand for his or her age, or seems unmotivated to talk.

- Focus on the positive, and not the weaker, aspects of the child’s language. Allow language to develop naturally, and barring any obvious problems, at the child’s own pace.
- Enlist shared reading, in which the child participates in reading oversized books with the adult. These colorful books often contain chants or rhymes, promoting motivation, phonological awareness, confidence, expression, articulation, vocabulary, and comprehension.
- Read every day. As children hear oral language spoken, they learn the cadence, or rhythm, of language along with expression and new vocabulary words as well as new concepts and develop comprehension skills. Recommended books include poetry, alphabet, songs, pop-up, animal, picture, and fairy/folk tales.
- Use dramatic role play of stories. Supply dress-up props and objects to facilitate the role play. Include, for example, pirate, astronaut, ballet, and wait staff costumes.
- Encourage sociodramatic play so that children have opportunities to reenact their own life situations, such as a visit to the dentist, the first day of preschool, or a family vacation. Sociodramatic play enables children to use their imaginations and creativity as they engage in pretend play about a familiar life topic.
- Treat children as communicators. Hold frequent conversations with them. Take turns with them while listening and contributing to the conversation.

- Introduce “grand conversations” that allow children to learn ideas and language from each other while exploring a topic of mutual interest. The teacher may facilitate the group or dyad discussion but plays a relatively minor role in the course of the conversation.

- Elaborate on children’s contributions. When the teacher enlists a technique called “elaboration,” as defined by Harvard University scholar Courtney Cazden, he or she expands upon the child’s contributions. The child, in turn, acquires a valuable means of supplementing his or her utterances. For example, during a science lesson, a child contributes, “My group found a big rock.” The teacher replies, “Wow, your group’s red rock *is* large and solid!”

- Allow plenty of time for play, including dress-up, free, and parallel play, in the classroom and home. Language develops naturally when children are provided the freedom to explore words and ideas in relaxed settings. Provide play materials and centers including building blocks, carpentry stations, castles, gas stations, and open-ended art supplies.

- Recognize the benefits of storytelling for comprehension and vocabulary development. Storytelling is particularly beneficial for English language learners (ELLs) and children with special needs because the child is free to participate in the storytelling without the fear of embarrassment. In their work, Susan Trostle Brand and Jeanne Donato describe storytelling methods that promote oral language, including draw talk, character imagery, puppetry, chant, felt board, pantomime, and group role play.

- Keep learning and learners active and participatory. Encourage problem solving, experimentation, exploration, outdoor learning, inquiry-based teaching, and discovery. Minimize adult talk and, instead, maximize children’s group work and interactions that include their conversations and sharing of concepts and ideas.

Conclusion

From cooing to babbling, progressing through the later stages, and finally holding adult-like conversations, children’s language development, from

simple to complex, is a fascinating phenomenon. Children use trial-and-error to acquire language, following language usage rules that they observe in others, and experimenting to find their own paths. Adults facilitate oral language development through an awareness of the universal stages of language development, an understanding of each child’s uniqueness, and a working knowledge of best-practice strategies. They lay a strong foundation for the individual’s acquisition and use of oral language throughout the life span.

Susan Trostle Brand

See also Cultural and Linguistic Responsiveness; Language Development; Language Development, Theories of; Language Disabilities; Language Diversity; Literacy; Play, Benefits of

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OUNCE OF PREVENTION FUND

Since 1982, the Ounce of Prevention Fund has been a national leader in improving the quality of early childhood education, which evidence shows increases the likelihood that young children—particularly those born into poverty—will experience positive life outcomes into adulthood.

Rooted in science about brain development, school readiness, the academic achievement gap, and the effects of early life experiences, the Ounce has over time grown its identity as a thought leader in early learning through its programmatic and policy work, research, and professional development.

Programming

In 2000, the Ounce opened Educare Chicago on the city's South Side. The birth-to-5 school served as Illinois's first model for high-quality early childhood education, applying well-supported research and evidence-based practices to inform the education and care that is influential in supporting the healthy development of children at risk of school failure. Independent research has shown that the Educare model helps students enter kindergarten close to the national average in vocabulary, social-emotional skills, and other indicators of school readiness.

In 2003, the Ounce partnered with the Buffett Early Childhood Fund to build a network of high-quality schools using the Educare model in states across the country. Since its inception, the Educare Learning Network has grown to more than 21 schools, delivering high-quality early education to as many as 200 students, birth to 5, at each school.

Policy

By collaborating with state advocacy partners to forge and advance a comprehensive, high-quality birth-to-5 system that includes center- and school-based early learning, as well as evidence-based family support programming, the Ounce has elevated Illinois as a state leader in early childhood education.

Its advocacy efforts have helped drive public support for high-quality early education and helped secure \$52.2 million in Race to the Top—Early Learning Challenge grant funding from the U.S. Department of Education to advance Illinois's early childhood system. At the federal level, the organization has helped secure more than \$650 million in early education funding.

In an effort to strengthen and maintain the gains achieved when young children are provided high-quality early childhood education, the Ounce expanded its work to support the alignment of school districts nationwide with early learning systems. Backed by evidence, the organization insists that the outcomes produced through quality early learning experiences cannot be effectively maintained without the needed support of school improvement plans that are inclusive of early childhood.

Research

Motivated to help improve the trajectory of young children and families through early childhood education, the Ounce has, through its research work, been a leader in the field of early learning. By continuously evaluating its methods and their effectiveness, the Ounce of Prevention Fund has continued to improve its practice of delivering and supporting high-quality early childhood education and sharing its findings to raise the quality of services delivered to at-risk children and families in Illinois and across the country.

The Ounce's ongoing study of its Educare model, for example, continues to inform the field of early childhood education with best practices and subsequently to build support among the public, private organizations, and policy makers for high-quality early learning. Results from the longitudinal study show that children who attend Educare schools arrive at elementary school not just more academically ready, but socially and emotionally prepared, as well.

In addition, the Ounce has engaged in innovation to increase the breadth of the high-quality early learning it promotes. Through the Early Math Initiative at Educare Chicago, the school's children are provided early experiences with

numeracy and problem solving. Early math activities have included cooking, shopping, and gardening—everyday ways in which parents can enhance their child's math skills.

Professional Development

Using its deep and diverse expertise in the field of early learning, the Ounce has also striven to improve the quality of early childhood education and care through the professional development of early childhood teachers, leaders, and providers. The organization has provided professional development to more than 2,500 community-based early childhood professionals, including 950 professionals working in Educare schools across the country. In the state of Illinois, the organization reaches about 90% of family support staff through its home visiting and doula professional development programs. By training at least 3,000 early childhood professionals across the state, the Ounce has served an estimated 11,500 families.

As part of its principal mission to ensure that all at-risk American children from birth to 5 years old have access to high-quality early childhood education, the Ounce, with the help of both public and private funding, expanded its efforts to broaden its reach of early learning professionals. The Ounce has applied its more than 30 years of expertise in home visiting to offer a comprehensive online professional development program. The online accessibility allows for nationwide reach.

Impact

The Ounce has persistently pursued the goal that all children have quality early childhood experiences in the crucial first 5 years of life to build strong individuals, stronger communities, and a strong nation. Studies show investing in high-quality early childhood programs yields a \$7 to \$10 rate of return for every \$1 invested. Further, evidence shows that participation in early learning increases high school graduation and college rates, reduces teen pregnancies, lowers crime and

delinquency rates, and raises adult employment and prospects for a living wage.

Kelly Ginley

See also Data-Based Child Advocacy; High-Quality Early Education, Long-Term Benefits of; Home Visits; Neuroscience and Early Education; Prevention Science and Early Education

Websites

Ounce of Prevention Fund: <http://www.theounce.org/>

OUNCE SCALE, THE

Assessment is an integral part of instruction in early childhood special education (ECSE). The assessment data gathered are required to communicate children's progress, and to determine what children know and can do, individually and/or collectively, at any point in time, before, during, or after instruction. The Ounce Scale is an assessment tool used in some ECSE programs for ongoing, observational, functional assessment of children from birth through 42 months. The Ounce Scale uses Observation Records completed by both parents and early childhood professionals to document progress over time.

Overview of the Ounce Scale

The Ounce Scale is an authentic assessment tool designed to meet several purposes, including but not limited to the following: to document and evaluate child growth and development over time, to provide structure for families and professionals to become better observers of their children, and to enhance child development by increasing family engagement in young children's growth and learning. It is organized around eight age levels and deals with six areas of development: (1) personal connections, in particular how children show trust; (2) children's feelings about themselves, in particular how they express their identity; (3) relationships

with other children, that is, how they act around and respond to other children; (4) understanding and communicating; (5) exploration and problem solving; and (6) movement and coordination.

The Ounce Scale has three main components: the Observation Record, used to document children's everyday behavior and provide data for evaluations about children's development; the Family Album, which provides a way for parents to learn about their child's development as they record their observations, collect photos, and respond to questions; and the Developmental Profile, which enables caregivers and others working with children to evaluate each child's development and progress over time, comparing their observation data to specific performance standards.

Significance of the Ounce Scale

Assessment data is used in ECSE for the development and selection of intervention materials that bring about optimal gains in young children's learning. Effective intervention does not end in the classroom, however; it includes children's natural environments such as the home, community playgrounds, grocery store, park, and library. Therefore, meaningful intervention assessment data will involve parents in the assessment process.

The Ounce Scale meets the standards of effective assessments in ECSE that encourage the involvement of parents, use of multiple data sources, use of developmentally appropriate tools, and use of ongoing performance or authentic assessments (tied to daily activities) to track young children's development and their strengths, progress, and needs over time. Developmentally appropriate practices for children from birth to 8 years old make a case for assessments that are inclusive of parents because they are the first teachers, and they typically know their children better than any caregiver or professional. Involving parents in the assessment process ensures the continuation of intervention methods and curriculum to all natural environments where children with disabilities live, play, and participate.

Considering the important role that parents play in the ongoing assessment process, teachers

and caregivers need to work closely with parents. Literature that sheds light on parental involvement in the Ounce Scale assessment process is still limited. There is a need to understand the barriers to parental involvement in the assessment process that lead to ineffective intervention for children with disabilities. The following section gives a brief report on the findings of a qualitative study that explored early childhood special education teachers' views of the benefits of parental involvement in the Ounce Scale assessment process. Challenges that hinder collaboration between parents and teachers during the assessment process were identified. Specifically, the study sought to reveal benefits and the challenges that infant/toddler teachers experience working with parents during the assessment process. The specific research questions the study sought to address include these: How do early childhood special education teachers perceive the benefits of parental involvement in the assessment process? What barriers do teachers face in working with parents in the assessment process? What are possible solutions to the barriers?

Benefits of Involving Parents in the Assessment Process

All teachers who participated in the study agreed that it is important to involve parents in the assessment process because they know their child better than anyone else. Some teachers who had children with significant disabilities noted that they needed parents to be part of the assessment to ensure the continuation of intervention beyond what they could offer in the classroom to include all natural environments.

Teachers also noted that parents benefit more from gathering assessment information on their children. During the observations, parents focus on their child, and they increase their understanding of their child's development, strengths, and needs. One teacher commented that a parent, once she had written down her observations about her child, found herself surprised at how much her child was able to accomplish.

Challenges Teachers Face in Working With Parents

Most teachers working with families in the Ounce Scale assessment process indicated that one of the major challenges was the lack of child development knowledge on the part of parents. Although the Ounce Scale clearly described the different aspects of development that parents should document on the Observation Record and what to include in the Family Album, oftentimes the data provided by parents lacked clarity, such as giving the date on which a photo showing a particular behavior was taken. From the teachers' comments one can infer the need to train parents about the assessment process, and how the Family Album is crucial as a tool to document progress, and where the child still needs assistance. Some parents did not understand the Family Album was meant to comprise more than photos, and that even scrap writing, or short notes written at the time of the child's behavior, could help explain what the child is able to do.

Some parents are not aware that they are supposed to also provide intervention for their child. As a result, the idea of the Observation Record and Family Album to document needs and progress did not make much sense to them. Parents' experiences of school and beliefs about their role in relation to professionals affect how they take part in the assessment process. If they believe it is the duty of the professional to assess their child, they find no urgency in completing their role.

Possible Solutions

One of the major reasons parents do not contribute in the assessment is the feeling that their observation or input does not matter, especially if they never see their ideas included in the discussion about their child. Professionals need to show that parent observations and evaluation of their child's development matters. Coming up with a visual matrix that compares the caregiver's and parent's observations helps parents with confidence and trust in the assessment process. Table 1 has a simple matrix that could help parents.

Discrepancies in ratings between parents and caregivers open up a rich discussion about the number of times the child was observed by each observer, the environments where the child was observed, what the child is really able to do, and what the child should be doing as the way forward. Information collected in a matrix like that shown in Table 1 may serve as a starting point to discuss the child's needs. Additional information, such as notes and photos from the Family Album, could be used to support what is in the matrix.

In addition to working with families to complete a developmental profile, there is a need to have a discussion with families about effective observation and documentation of what they see. It is important to note that not all information observed will matter; parents need to know exactly what they need to document. In order to get parents to understand that, there is a need for intentional discussions between the parents and professionals. Some of the questions that may guide the discussion include, but are not limited to, the following:

What information do parents need to collect?

How should they gather the information? How much information do they need per week/per month?

What are they learning about their child?

How do they use the information?

In addition, when training parents, one needs to take the *coaching approach*. A coaching approach requires that the practitioner or teacher as a coach provides support to the parents to improve their child's skills and abilities rather than the practitioner working directly with the child.

For parents who may not have continuous access to cameras, there is a need to encourage scrap writing. Scrap writing is similar to anecdotal writing; the difference is that scrap writing is done on any type of paper, anywhere, to quickly document what one is seeing in space and time. Anecdotal records are mostly written in past tense and after the event. Most parents would have

Table I Developmental Profile Matrix Comparing Parent and Caregiver Observations

<i>Developmental Profile: Four to Eight Months, March 2014</i>				
	<i>Parent</i>		<i>Caregiver</i>	
	<i>As Expected</i>	<i>Not Yet Observed</i>	<i>As Expected</i>	<i>Not Yet Observed</i>
Social and Emotional				
I. Personal Connections: It's About Trust	+		+	
• Engages with familiar adults	+		+	
• Notices and reacts to unfamiliar adults	+		+	
II. Feelings About Self: Learning About Me				
• Expresses feelings	+		+	
• Learning to cope with familiar and unfamiliar situations	+			–
III. Relationships With Other Children: Child to Child				
• Shows awareness of other children	+		+	

forgotten precisely what they observed, especially when they do not have the camera ready.

There is a need for professionals to learn about cultural competency and cultural competency practices. Some parents come from closed cultures where sharing personal problems is a taboo. In such cultures, parents are not forthcoming with their children's needs or family needs, and that hinders intervention. When professionals know how to relate to other cultures they will help the parents to be more open. The process of learning about variations in cultures is continual. It includes gaining greater appreciation of the intricacies of other cultures and more clarity about differences with one's own culture. As early childhood professionals gain more knowledge and awareness of other cultures, they may become better able to separate their biases and opinions from facts and find that it affects how they interact with parents and families.

Esther Ntuli

See also Assessing Children for Disabilities; Assessment, Limitations of; Authentic Assessment; Family Partnerships; Infant and Toddler Programming; Parenting Effects on Child Development; Parenting Support and Education; Personnel Preparation for Early Intervention

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OUTDOOR PLAY SPACES

Outdoor play spaces are influential components of the environments where young children live and learn. Irrespective of location, these settings possess a wide range of characteristics that may positively or negatively impact children's development. Government agencies typically monitor the health, safety, and accessibility of children's play areas found in public parks, restaurants, child care programs, and schools. Professional organizations and other agencies have sought to define the quality of children's outdoor play environments through various means, such as publishing position statements, developing standards, offering accreditation, and creating evaluation instruments. The relationship between outdoor play and children's health is substantiated by numerous research findings. For instance, outdoor play is considered a key factor in promoting cardiovascular fitness, building strong bones and muscles, curbing the effects of stress, and preventing childhood obesity. In addition, experts highlight many social, emotional, and cognitive benefits that may accompany frequent access to safe, challenging, and intriguing outdoor play spaces. This entry includes a brief overview of issues related to outdoor play in educational settings and provides discussion of appropriate, integrated physical, intellectual, and

relational spaces that adults can create to support children's development and learning.

Overview

No image better captures the popular essence of childhood than that of a young child engaged in outdoor play. Across cultures, adults seem to understand that when children play outdoors they are doing something important for their growing bodies, minds, and relationships. Physical play is essential to healthy child development. Running, jumping, catching, and climbing are examples of natural movements that support the growth and health of all the body's major systems. Opportunities for these types of movement are expanded when children play outdoors. Outdoor environments provide multitudes of unique sensorimotor experiences and challenges that promote cognitive development, that is, the very construction of knowledge. Also, as children interact with others during outdoor play, they meet social scenarios that compel them to discover new ways of relating to and respecting others—balancing their needs and ambitions with those of adults and other children.

A child's ability to safely and joyfully play outdoors is in many ways a measure of the well-being of the community to which the child belongs. Throughout history, adults have used their own play experiences and practical knowledge to construct outdoor play spaces for children. Beginning in the late 1800s, the emergence of specific places being set aside for children to play paralleled the growth of concern for public welfare in the United States. These pieces of property, allocated and designed to include recreational features for children, became known as *playgrounds*. In the last 150 years, changing philosophies and institutional priorities have caused dramatic shifts in how outdoor play spaces are conceptualized.

Context

Early childhood education professionals recognize that the amount of time designated for outdoor play and the characteristics of outdoor play areas reflect an important dimension of the quality of

an early childhood program. Unfortunately, play opportunities for preschool and primary-grade children during the school day have dramatically declined. Nationwide, many schools have reduced or eliminated outdoor play, even free recess, in the pursuit of higher academic achievement. However, information about how teachers can use children's experiences outdoors as a context for integrated learning is becoming more widely accepted.

Given the rich affordances accompanying outdoor play and the current status of play in many educational settings, educators can demonstrate their professional knowledge base by investigating sources of inspiration and practical information about how to create safe, stimulating, and effective outdoor spaces for children. Caring communities within neighborhoods, child care programs, and schools can realize the outdoor play environments that they imagine through careful organization, collaborative planning, and the creative acquisition of resources. Whether the goal is new construction or the transformation of an existing play space, it is necessary to maintain an awareness that children's play is a dynamic, open venture consisting of and enhanced by (a) physical spaces, (b) intellectual spaces, and (c) relational spaces.

Physical Space

Safety and health are the first and foremost priorities when planning any space for children's activity. Regardless of how elaborate and enticing the space may be, if it is not safe, it is unworthy of children. This entry cannot deliver a thorough description of playground safety. Therefore, due diligence demands the careful consultation of the numerous safety guidelines and recommended practices available. Adherence to all local regulatory and licensing codes regarding, for example, fall zones, protective surfacing, equipment spacing, fencing, and accessibility is required and must be maintained. Early educators should be aware that the school playground their students are expected to use might have been designed for older children. Developmental appropriateness is not confined to the classroom. Therefore, equipment should be the appropriate

size and provide a proper balance of risk and challenge for the ages of the children using the space.

Strategies for creating a welcoming space where each child finds ownership and a sense of belonging are equally valuable within outdoor environments. Clean and well-maintained materials, organized in designated storage that is accessible for all children's use provides an invitation for children to use materials responsibly. Displays of a large map and smaller signs designating areas of the playground help children understand how the spaces "work" together for general and the specific purposes. Clearly defined pathways provide safe passage for the curious and encourage exploration. Displays documenting children's activity outdoors and the preservation of children's creations allow children to connect and reconnect with meaningful learning and social experiences.

A high-quality physical space simultaneously offers diversity, novelty, predictability, flexibility, and lots of activity. Such an environment advances vigorous gross motor activity in endless ways. For example, within a single play session a child may run fearlessly during a game of tag; jump over boulders, logs, and other natural obstacles on an imagined adventure; pedal a trike along a path; and choreograph and perform a dance upon a pretend stage. An array of loose parts, balls, and other age-appropriate toys expand the options for purposeful self-directed play alone and with peers. Research indicates that play spaces including both manufactured equipment and natural, open-ended materials yield the highest levels of physical activity for children. Fixed playground equipment such as swings, climbing structures, and slides are dependable features that generations of children have enjoyed. Changeable features, such as sand or mud play areas; construction zones; gardening spots; and raised wood decking for performances, group experiences, and dramatic play afford children a plethora of experiences benefiting the physical domain and beyond.

Intellectual Space

Outdoor play engages children's minds as well as their bodies. Developmental theory and research

suggest that when children are exposed to diverse sensorimotor experiences and encounter problems, they construct new knowledge and form new strategies for thinking. High-quality outdoor physical spaces as described above are intended to serve as dynamic spaces that fuel the growing intellect. Rarely in schools do teachers plan for children's natural learning outdoors. Recess is better than no time outdoors, but simple strategies and readily available materials can transform times used to merely blow off steam into contexts with potentially higher educational value than the classroom alone.

While outdoors, children are able to engage in sophisticated intellectual activities with interest and enthusiasm. Making observations, forming questions and hypotheses, identifying problems, testing solutions, stating predictions, and countless other abilities can be documented when adults honor and encourage children's capacity for scientific thinking. Drawing children's attention toward wildlife and other natural elements activates their innate sense of wonder. Providing loose parts and open-ended materials for constructions of every sort creates conditions that require critical thinking, problem solving, and perseverance—and constant opportunities for children to learn how to work with others.

Relational Space

The phenomenon of young children playing together outdoors can be accurately described as a literal relationship laboratory. It is difficult to envision any situation where children's struggle to relate and interact is more visible and complex. If one imagines an impromptu gathering of neighborhood children, devoid of adult presence or agenda, it is likely that the image will include a display of very distinct personal communication styles. Eventually, alliances form, and roles are assumed. Power is displayed and conflict ensues. One can imagine how various problem-solving strategies could be suggested. In short, children have amazing capacities for managing their social worlds. Surprisingly, research indicates that these sorts of scenarios where groups of children gather

outside of the range of adult supervision and capably work out social problems have become quite rare. Furthermore, as a result, today's children may be less competent in managing social relationships than children have been in the past. In many programs and schools, teachers work continuously to maintain behavioral expectations conducive to the production of academic work. When things go awry among children, often the teacher determines the source of the problem and pronounces the solution. This practice denies children the opportunity to experience authentic relationships and learn how to successfully navigate them. Fortunately, a large body of literature exists that provides principles and strategies for building community and expanding children's social competencies within the classroom.

Periods of time outdoors are prime occasions to create a positive relational space. Cooperative peer relationships originate within children's warm, secure relationships with adults. Teachers activate the relational space outdoors by being physically and emotionally present. A high-quality outdoor play space cannot exist without sufficient adult supervision. Safety standards require that each child be visible to at least one adult while outdoors. To actualize the outdoors as a relational space, adults go beyond watching out for trouble and assume the role of observer, model, and coach. A relational space coexists with the intellectual space and the physical space. When groups of children enjoy the features, elements, and atmosphere that characterize a rich physical environment, they continuously encounter events that challenge their social skills. Waiting for a turn to use a swing, being accidentally hit by a runaway trike, asking for a friend's help to balance a board while building the roof for a hideout, and thousands of other possibilities are occasions for authentic learning about managing emotions, expressing feelings in responsible ways, and suggesting solutions to remedy conflicts. The relationships formed with adults and early friendships provide the secure foundation, practical examples, and resources to draw from when learning to relate to others seems difficult. The

intellectual space—where new encounters are met with enthusiasm, where it's okay to be uncertain or wrong, and where persistence is rewarded—strengthens the relational space and creates a positive social climate with long-term implications. Conceptualizing and creating outdoor environments that integrate physical, intellectual, and relational dimensions offer young children the opportunity to develop traits and skills that can translate into more civil societies.

Sean Durham

See also Checklists and Rating Scales; Child-Initiated Play; Creativity; Healthy Environments for Social-Emotional Development; Imagination; Joyful Learning; Nature and Young Children; Play, Benefits of; Playground Structures

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PARAPROFESSIONALS

Paraprofessionals are individuals who provide assistance to professionals by conducting various support activities. In the education profession, the term *paraprofessional* is typically used to identify those who provide support for teachers by working with individual children in a classroom, monitoring noninstructional activities during the school day, and/or providing clerical support. Paraprofessionals who work with young children may also be referred to as teacher assistants, teacher aides, support staff, or paraeducators. Education and experience requirements for paraprofessional positions vary based on position funding requirements and qualifications as determined by the hiring agency.

The Role of an Early Childhood Paraprofessional

Early childhood paraprofessionals work with children ages birth to age 8. They may provide general support to a program, support for a specific group or classroom of children, or support to individual children. Paraprofessionals in any of these roles may also provide clerical support, supervise or monitor children or a specific child during noninstructional activities, or provide instructional support to children or a specific

child. Hiring agencies determine a paraprofessional's qualifications, duties, and responsibilities. If the position is funded by the federal government as a Title I paraprofessional, the person who is hired to fill the position must be designated as highly qualified by meeting specific stated requirements.

Early childhood paraprofessionals may work in public or private schools, in early childhood programs, or for agencies or organizations that provide support for families and children. Schools educating preschoolers, kindergarteners, and first, second, and third graders may hire paraprofessionals to fill positions for specific populations of students financed by federal or state grants or by local funds. For instance, a school district may hire a paraprofessional to provide support for a child who has a sight or hearing impairment. Early childhood programs, such as programs that offer full- or part-day education and care for children outside the home, may also finance paraprofessional positions through federal, state, or local funds to work with a child with an identified special need, such as a child with a mobility disability. Early childhood programs may also use parent tuition funds to provide a paraprofessional for daily classroom support and to meet staff to child ratios required by state regulations. Agencies or organizations that serve families and children may also hire paraprofessionals to serve in the roles, such as home visitor or parent mentor.

Clerical Support

Paraprofessionals may be assigned clerical support responsibilities and duties. Support duties may include such tasks as completing routine attendance and report paperwork. By conducting these routine duties, the paraprofessional provides support that allows the teacher to spend more time on advanced instructional duties.

Monitoring and Supervising of Noninstructional Activities

Monitoring children during meals or snacks, restroom breaks, playground activities, arrival or departure times, and/or preparation or cleanup of classroom activities contribute to the school, program, and classroom community. Paraprofessionals serve as positive role models and often build a special bond with children during these transitional and routine times. Supportive interactions with children during these noninstructional periods help children develop skills in the social and emotional domains.

Instructional Support

Primary among the duties and responsibilities of paraprofessionals is the task of providing instructional support for groups of children or individual children. A teacher may develop an instructional plan (lesson plan) and a paraprofessional may implement the plan under the supervision of the teacher. For instance, the classroom teacher may lead a literacy activity with a small group of children and the paraprofessional may lead another small group of children in a different activity that was planned by the teacher. Paraprofessionals, following directions from the teacher, interact with children involved in learning center activities and focus on specific vocabulary development and communication skills.

Instructional support may also be provided to individual children with special needs. Often the type of paraprofessional instructional support is determined by a child's Individual Education Plan that is developed by a team of professionals and family members. For example, a paraprofessional

may be assigned to work with a child who has a physical or emotional disability, a child with limited English proficiency, a child who lacks self-regulation skills, a child who will benefit from one-on-one instructional time, or a child with a diagnosed learning disability.

Qualifications of an Early Childhood Paraprofessional

Paraprofessionals may possess a variety of educational and experiential qualifications. When providing instructional support, paraprofessionals must have knowledge of learning standards and associated skills, as well as a deep understanding of child development, best practices, and developmentally appropriate practices. Title I, Part A of the Elementary and Secondary Education Act has funding provisions for paraprofessionals who provide instructional support for children designated as disadvantaged. Title I paraprofessionals must meet the federal definition of "highly qualified" by meeting specific competency requirements. In this context, to be highly qualified, a paraprofessional must have a minimum of an associate's degree or 2 years of college credits and passing scores on a qualifying exam or some other acceptable assessment measure. For paraprofessional positions not financed with Title I funds, each state and local agency or school may set paraprofessional position qualifications and job descriptions.

Some community colleges provide paraprofessional certificates or associate's degrees. Numerous training resources are available that focus on paraprofessional skills, knowledge, and dispositions required to provide effective support and help children meet learning outcomes, state standards, and Common Core standards. In addition, resources are available to assist those supervising paraprofessionals to create effective, productive team approaches that will positively affect student/child learning. The National Resource Center for Paraeducators is a nonprofit, professional organization that provides resources and support for paraprofessionals and supervisors.

Peggy Apple

See also Early Childhood Inclusion; Individualized Family Service Plan and Individualized Education Program

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PARENT AND FAMILY INFLUENCES ON ACTIVE FREE PLAY

Active free play is a specific type of play, defined as spontaneous and voluntary activities that take place outdoors with minimal direct adult supervision or control. It may be social or solitary, can involve games with informal rules, and must include bursts of physical activity. Children engage in active free play in parks, playgrounds, streets, and natural environments. Examples of active free play include running, climbing, chasing, and informal games, but not organized sports. Active free play research often also includes the study of active transportation, specifically in terms of children walking or cycling to play areas.

Value of Active Free Play

Active free play is important for healthy cognitive and social development. It provides children with opportunities to learn how to work in groups, share, negotiate, resolve conflicts, and learn self-advocacy skills. Exposure to natural outdoor environments is associated with reduced prevalence of cardiovascular,

respiratory, neurological, and digestive diseases, as well as reduced depression and anxiety.

Decline of Active Free Play

Children's active free play has declined significantly over the past 50 years as there has been a shift toward indoor sedentary lifestyles. Such indoor sedentary lifestyles contribute to chronic conditions among children including obesity, asthma, attention-deficit/hyperactivity disorder, and vitamin D deficiency, all of which have increased in North America. Parents and other caregivers are the most frequently reported barriers to children's engagement in active free play due to their safety concerns.

Parent and Family Influences

The concept of the good parenting ideal can be used to examine how and why the restrictions parents place on their children have changed. The good parenting ideal essentially refers to how parents understand societal expectations for their parenting. It is what parents perceive to be considered good parenting by other parents in their community and society, and is therefore subject to evolving social and cultural norms. For instance, some parents feel the need to monitor their children at all times in order to be seen as good parents, whereas allowing children to play outdoors unsupervised would be a feature of poor parenting. Furthermore, traditional autocratic parenting styles have fallen out of favor in recent times and been replaced with child-centered, authoritarian, and, in some cases, indulgent and overprotective approaches. In the 1950s and 1960s, the family home was a place for adults and strict control, while outdoors was a place for children. In more recent times, outdoor spaces became adults' areas while private spaces, such as the family home, became children's areas.

Understanding Active Free Play From an Ecological Perspective

Social psychologists have observed that there must be synergy in the life space between individuals

and their social environments to produce positive outcomes. Ecological theories build on this concept and are typically based on the notion there are different levels of “social ecology” (i.e., social environments). The ways in which individuals interact with these social ecologies influence their behavior. Ecological approaches can be used to understand parents’ influence on active free play. Following the work of Bronfenbrenner, scholars can view behavior as a function of interactions between individuals and features of their social ecologies. Individuals interact with several levels of ecological systems, from more proximal microsystems to more distal macrosystems (ranging from family, school, neighborhood, and community to surrounding political and economic systems, and culture). The use of an ecological approach facilitates the analysis of more individual factors (e.g., child characteristics), proximal issues (e.g., parenting), how they are influenced by more distal issues (e.g., neighborhood and social factors), and relationships or intersections between different systems.

Ecological Determinants of Active Free Play

Child characteristics have been associated with engagement in active free play. With increasing age children are usually more likely to be permitted by their parents to engage in active free play. Children are allowed more opportunities to play if their parents perceive they are competent enough to recognize and appropriately respond to potential dangers in the outdoor environment (i.e., they are “streetwise”). Boys are usually permitted more freedom than girls, specifically in terms of being allowed to play outdoors more frequently, under less supervision, stay out later, and have a larger spatial range away from the family home.

As noted earlier, parents’ and other caregivers’ safety concerns are the major barrier to active free play. Parents are concerned about safety with respect to strangers, bullies, teenagers, and traffic. Safety concerns are reported in both urban and rural settings. Parents attempt to manage their

safety concerns through some forms of surveillance, which can include setting spatial and time limits for their children (i.e., children can go only to certain locations and have to be home by a certain time), driving them to locations, allowing them to play only with friends, or insisting they carry cell phones.

Features of the neighborhood and physical environment influence active free play. There are fewer children in neighborhoods, meaning there is an absence of friends to play with and decreased “safety in numbers.” On the other hand, the accessibility and proximity of play areas from the family home has a positive influence on the likelihood of children engaging in active free play. Children are more likely to use, or be allowed by their parents to use, playgrounds that are well maintained.

A reduced sense of community is one of the reasons why parents are reluctant to allow their children to spend time outdoors. This involves not knowing neighbors or other families in the local community. Broader societal and economic forces have meant that children’s play spaces and playtime have become increasingly privatized. Researchers have suggested that, to revive active free play, there must be an increased sense of community that involves people knowing their neighbors, spending more time outdoors in their neighborhoods, and organizing community-oriented events.

Social Traps

Parents face *social traps* that restrict children’s engagement in active free play. For example, if parents restrict their children’s freedom to spend time outdoors, there are fewer children to play with outdoors, thus further restricting parents’ willingness to let their children go out and play due to the absence of safety in numbers. If parents are more likely to drive their children than let them walk due to concerns about road traffic, they therefore contribute to increasing the amount of road traffic. Combined, these social traps reduce the number of people who spend time outdoors in a neighborhood, diminish a sense of community and social cohesion, and increase perceived safety

concerns. These examples highlight the reciprocal nature of factors at multiple levels of social ecology that influence children's active free play.

Interventions

Traffic calming, crime prevention, and community policing strategies offer one set of alternatives for addressing parents' safety concerns. However, there is an urgent need for more intervention research to revive active free play. Existing evidence suggests community-level interventions targeted at building social cohesion are required. Avenues to engage children in planning decisions are required for creating community-oriented change that caters to children's needs. Researchers and planners should "see" with the eyes of children and create play opportunities that serve children's needs rather than adults' needs.

Nicholas L. Holt

See also Child-Initiated Play; Media Influences on Play; Peers and Play; Playground Structures

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- Children & Nature Alliance of Canada, a network of organizations and individuals working to connect children to nature through education, programing, policy, and research: <http://childnature.ca/>
- Children & Nature Network, a movement to connect children, families, and communities to nature: <http://www.childrenandnature.org/>

PARENTING EFFECTS ON CHILD DEVELOPMENT

Parenting is a multidimensional construct that embodies many behaviors that parents engage in for and with their children, including nurturance, education, discipline, monitoring, management, and providing materials. It also includes attitudes and beliefs that impact parents' behaviors such as expectations and progressive versus traditional child-rearing beliefs. Parenting is developmental and dynamic in that knowledge and behaviors of parents change over time due to various factors including age of parent and child, number of children, child skills and temperament, and multiple contexts and circumstances.

Overview

Key aspects of parenting found to impact children's development are sensitivity/nurturance, cognitive stimulation, resources (including time), and management. Highly sensitive parenting includes expression of affection and warmth, as well as emotional availability (e.g., praising or cuddling). Cognitive stimulating parenting includes intentional teaching to enhance children's skills (e.g., assisting children in learning their letters or solving a puzzle). Resources are referred to materials, opportunities, and time that parents provide to children that support their development (e.g., visit to the zoo, books, contingent conversations). Management encompasses parents' engagement and attention to the needs of their child ranging from management of children's health needs and daily routines of the household (e.g., bath time) to the amount of television time.

Other aspects of parenting noted in the literature include parental expectations and beliefs, closeness and conflict between parents and children, and stress due to parenting. While these aforementioned parenting behaviors and attitudes are thought to be universal, caution is needed when examined through the lens of diverse families and communities, whose behaviors and attitudes are influenced by the sociopolitical history of the U.S. (i.e., racism and discrimination), culture, and economic status.

Theory

The bioecological theory and two key economic frameworks provide support linking parenting and children's development. The bioecological theory states that various systems impact children's development, but one system in particular, the microsystem, is more proximal to children's development and it includes parents and families. Two frameworks have been presented showing how families' economic status is linked to children's development through parenting. The first, the family investment model (FIM), suggests that socioeconomic status—income and education—provide one with the economic stability and ability

to purchase goods and materials, as well as provide opportunities and experiences that promote children's development. The second, the family economic stress model (FESM), suggests that the psychological stress associated with economic deprivation and hardship disrupts parents' ability to be responsive and engaged with their children, subsequently impacting children's functioning and development. These two frameworks indicate that with all factors being equal, when parents are economically and emotionally invested in their children, children are likely to show better cognitive and social competence.

While studies have empirically supported these theories, some studies have questioned their saliency for diverse families, who are living in different contexts in comparison with the majority White U.S. family. When parenting is viewed in context, questions arise about what constitutes investment, emotional distress, and economic deprivation.

Research

Vast evidence exists showing the association between various parenting behaviors and attitudes and children's cognitive and social development. Numerous studies have documented that the quality of the home environment, including cognitive stimulation and sensitive interactions between parents and children and available resources in the home (e.g., books), are associated with children's cognitive and socioemotional outcomes regardless of income and ethnicity. A meta-analysis examining various constructs of parenting has shown that parental expectations are strong predictors of children's later outcomes. Similarly, parents with child-centered beliefs are likely to have children with higher cognitive skills compared with parents with traditional or adult-centered beliefs. Other aspects of parents, namely depressive symptomatology and stress function, have been linked to children's development.

However, while many of these parenting indicators have been found to be generally universal, some studies note that some parenting behaviors and attitudes have differential effects on children's

development. For example, parenting behaviors viewed from a Eurocentric lens as controlling and intrusive, shown to have negative impact on White children's development, have been found to be less harmful for children of color, particularly African American children, especially within the context of warmth. This is the similar case for parenting behaviors viewed as permissive, as is the case with Hispanic families. Thus, more culturally relevant tools and approaches are needed that better capture the extent of parenting activities beyond those based on middle-class European American families.

Intervention

Many studies and reports, including a recent one funded by the U.S. Department of Health and Human Services, provide a wealth of evidence about the importance of parenting and family engagement for optimal child outcomes. Recently, more attention has shifted to examining effective ways to support and strengthen parenting. Approaches and strategies found to strengthen parenting included the following:

- Focus on family centeredness that honors and respects families' values and choices and provides supports to strengthen family inclusion in order to meet the needs of their child's development. Family-centered practices include compassion and active listening, support and belief of parenting capabilities, and responsiveness to parenting needs. Being family centered also means integrating the culture and community through, for example, celebrating the cultures of all families and interacting with families and/or teaching children outside of the school context and within their communities.
- Practitioners serving as the change agent and role model to support home-based engagement and support. Parental home-based engagement is found to be particularly more effective for children's outcomes than school-based involvement. Thus, practitioners can serve as role models to support families to engage in enriching and developmentally appropriate activities and interactions to support children's learning.
- Frequent interactions between home and school (including early education programs). Strong home-school connections are based on trust, teachers' openness and knowledge of culture without bias, and communication and collaboration. However, this connectedness between families and schools can only be established through frequent reciprocal and mutual collaboration and communication.
- Opportunities to build families' social capital and network through peer interactions and community engagement. Families' social networks and capital have lifelong impacts, and directly and indirectly impact children through examples such as impact on parents' psychological well-being. Providing opportunities to peer networks and community supports can bolster parents' positive sense of self, improving positive parenting, and reduce parental material and mental hardship.
- Recruit, train, and support emerging parent leaders through mutual respect, equity, shared power, and recognition of strengths. There are limited studies on the impact of parental advocacy on family engagement and child outcomes. Research nevertheless finds that families involved in the organizational structures of programs are likely to be more engaged. Increasing parental advocacy engagement requires commitment and willingness to share power and recognize families' assets.
- Opportunities for active engagement in all aspects of school (e.g., organization, management, curriculum) and using families' funds of knowledge. Engaging families requires one to acknowledge that parenting is a developmental process based on one's culture, experiences, and traditions. Therefore, parents are always learning how best to support their child based on their ability, their child's need, and their context.
- Utilization of resilient/strengths-based approaches. Families' well-being, including mental health and economic viability, must be considered when determining ways to strengthen family engagement. Studies abound about the deleterious impact of poverty, and chronic poverty on parental

mental health and subsequently family engagement and child outcomes. Addressing families' self-sufficiency is reemerging as an avenue to ensuring that parents are emotionally stable and secure and can only be accomplished through approaches that respect families' values and choices and provide supports.

Core Components of Effective Parenting Programs and Practices

Evidence-based or promising programs are focused on either micro aspects of parenting (e.g., parent-child relationship) or macro aspects (e.g., advocacy and social capital). Components of effective parenting programs are

- clear focus on area of focus (e.g., parent-child relationship, parental advocacy),
- identification of critical elements of program,
- well-developed sessions and activities,
- ability to be systematically and rigorously evaluated,
- direct service and support to families and less focus on supporting staff competence, and
- integration of culture and community.

As parenting is viewed as one of the critical elements in ensuring children's optimal development, along with community and education institutions, culturally based and informed research and practice are needed, especially as the United States becomes more diverse. A deeper examination of aspects of parenting that is most critical for children's development is needed to ensure that programs are aligned with parenting dimensions found to be most effective. In addition to alignment of program goals, competence of practitioners working with families must be further developed to ensure that the necessary skills, knowledge, ability, and attitudes are aligned with programmatic goals that support optimal parenting.

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See also Cognitive Developmental Theory; Healthy Choices and Young Children; Healthy Environments for Social-Emotional Development; Parents as Teachers

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PARENTING SUPPORT AND EDUCATION

As children build essential academic, social, and physical competencies in the early childhood years, their parents—their first, most constant, and most invested caregivers—play an essential role. Apart from their genetic contributions, parents serve as models from whom children learn a great deal of their vocabulary, as well as guides who support the development of self-regulation and prosocial skills, and gatekeepers who determine how, and with whom, they spend their time. The importance and complexity of parenting makes it an immensely challenging task, particularly when children are young and highly dependent on their families for care. Moreover, an increasing proportion of households must balance these intense family commitments with workplace demands and other community roles. Thus, it is likely that most parents of young children, at some point in their child's and family's development,

could benefit from additional education and support to help them refine their parenting and optimally support their child's growth. Such benefits may be particularly great among parents in low-income households and communities, who often face an usually high number of challenges with relatively few resources, and whose own knowledge and social capital, while potentially extensive, may not be well aligned with the expectations of the school system into which children are headed. This entry explores the diverse spectrum of parent support and education resources available to families of young children, especially those in poverty, highlights "active ingredients" that support effectiveness of these endeavors, and briefly describes key components of several widely disseminated, effective models.

Modern Landscape of Parent Education and Support Services

Parent support efforts have been a prominent thread in America's educational tapestry throughout the nation's history. In the late 19th and early 20th centuries, many endeavors were informal (e.g., casual meetings) and largely directed toward mothers in middle- or upper-income settings. However, the 1930s through the 1960s witnessed a shift toward more formal efforts to support families in need, including the advent of the Head Start program and the subsequent inception of Even Start and Early Head Start initiatives. One important facet of the evolution of parent education and support during this period involved the application of the term *parent* to all primary caregivers, including biological or adoptive mothers and fathers, grandparents or other extended family members, and/or other guardians; in fact, the past decade has seen increased emphasis on fathers and grandparents as well as mothers. Another key change was that parent education and support programs generally began to take an "assets-based" approach that recognizes and capitalizes on the strengths of families and communities while also providing new ideas and tools to expand parents' skills and well-being and, ultimately, to benefit young children.

Spectrum of Support and Education

At present, parenting support and education takes a wide range of forms that vary along several dimensions.

Target Outcomes

The target outcomes differ greatly across parent support models. Some parent education endeavors aim to improve parents' own economic or personal well-being (e.g., job readiness, mental health), while others target parents' caregiving skills (e.g., responsiveness to children, use of consistent and fair discipline with children), and still others focus on helping parents target specific child skills (e.g., helping children build language and literacy skills, or helping children manage challenging behaviors).

Intensity of Support

Support and education efforts are provided with varying levels of intensity, from relatively "light touch" efforts such as nudges or tip sheets sent home from daycare or preschool, to one or several workshops delivered to groups of parents, to repeated visits to and consultations in the family's own home (generally termed *home visits*) by a trained expert. In general, programs with more extensive goals, such as improving the quality of parent-child attachment, involve greater dosage (i.e., more sessions) over longer durations (i.e., several visits, perhaps even over several months), whereas programs with more specific goals, such as increasing the frequency of parent-child book reading, can be effectively delivered with fewer contacts over less time.

Providers of Support

The providers of these parent education and support programs vary as well. For example, early childhood education programs (e.g., Early Head Start, Head Start) are often highly effective providers of support and education services for families of participating children; however, they have little access to families whose children are not already enrolled. In contrast, a wider audience can be

reached by local and state agencies and community organizations, as well as pediatricians and other health providers. Yet more diversity emerges regarding differences in the individuals who are actually delivering information to families, particularly with regard to their caseload and training. Here again, programs targeting broad, complex parent and family goals that require significant time often mandate higher requirements for formal project-related training (e.g., a series of workshops resulting in certification), perhaps in addition to a degree in a particular field of expertise (e.g., nursing or education professionals). Conversely, programs with more constrained goals can sometimes be effectively delivered by full- or part-time para-professionals or even by volunteers.

Key Ingredients in Effective Support and Education Models

Meta-analyses suggest that effects of parent education and support on parents' perspectives and practices, as well as on children's outcomes, are mixed. However, given the variability of their nature and aims of these programs, it is difficult to draw meaningful conclusions across these projects. Instead, it is likely that a few key program features support success, and that they can be implemented in varied ways.

Evidence-Based Content

First, in order to help parents build knowledge and implement practices that result in stronger outcomes for both adults and children, it is essential that parent education programs target content that is evidence based and supported by rigorous analysis. For example, if the goal of the parent support program is to foster children's language and literacy skills through shared book reading, the program would need to provide parents with specific guidance, culled from the research, regarding how to engage children in book reading through discussion of new words, letters, and the sounds in words. If the information provided to families is not of high quality, families will not

derive much benefit. Conversely, high-quality information may set off a virtuous cycle, as families see positive effects of new ideas or practices in their own lives and then become more motivated to keep using strategies and to learn more.

Effective Training

Second, it is essential that this high-quality information be provided via clear and concise methods that families can understand. Moreover, particularly in more intensive, longer programs, families are more likely to entertain and ultimately try out new methods if they have built a personal relationship with the representative of the program. Ultimately, attrition is lower and uptake is higher when parents feel that their unique family circumstances are heard and appreciated, and that their point of contact with the project is knowledgeable and truly invested in them. Fostering such good relationships depends in large part on selecting representatives for a program who understand the broader community culture and are open to learning about families' own cultures; some programs aim to recruit personnel from that community to support this goal. Effective programs also need high-fidelity techniques for training personnel.

Feasibility for Families

Finally, even when high-quality information is effectively provided by well-trained and supportive parent educators, recommended ideas and strategies must be feasible for families to use in the course of their everyday lives. Extremely complex or time-consuming practices may be very challenging for families to use, particularly in households facing many stressors. Poor feasibility may discourage families from remaining involved in the program and result in disengagement and dropout.

Widely Used Programs With Evidence of Effectiveness

Many American families potentially have access to one or more parent education and support resources. Funding most often comes from federal

programs (e.g., Maternal, Infant, and Early Childhood Home Visiting [MIECHV] Program) or state funding that specifically targets families in poverty. Several of the more prominent and better researched models, each with evidence that it effectively changes its targeted outcomes, are briefly detailed below.

One of the more widely available programs, serving approximately 4.4 million families in poverty annually, is Reach Out and Read (see www.reachoutandread.org), targeting early language and literacy by helping pediatricians provide books and guidance on shared reading to parents of young children at well-child checkups. Also relatively widely available are Head Start and Early Head Start programs, providing center- or home-based care for more than 1.1 million children in poverty per year. These programs primarily support early cognitive, social, and physical development, but they also offer many family support services as well. Services include some home visits (generally two per year in center-based settings, and weekly visits in home-based settings), as well as workshops on parenting, job training, or other programming determined by each Head Start program. They also have full-time family liaisons on staff to help parents with a variety of issues.

More intensive, individualized programs with broader goals (e.g., supporting children's general school readiness by supporting parents' teaching, warmth, and management of children) often include extensive home visiting and reach fewer total families. For example, Parents as Teachers (PAT) serves approximately 200,000 families around the globe, fostering children's cognitive and social school readiness by enhancing a variety of parenting skills. This model provides home visits (from weekly to monthly frequency) by individuals from the community with at least 3 days of program-specific training over the first several years of a child's life, as well as group meetings that allow parents to learn together. In a similar vein, Home Instruction for Parents and Preschool Youngsters (HIPPY) serves approximately 16,000 American children per year. Like PAT, HIPPY involves home visitors from the community who

receive several days of program-specific training. They offer families of children ages 3 to 5 biweekly home visits and biweekly group meetings in which families role-play new techniques for building children's cognitive and social school readiness.

Perhaps most intensive are programs such as Healthy Families America, which seeks to reduce child maltreatment and enhance healthy development in very underresourced families through a variety of parent- and child-focused pathways. Beginning in infancy, children are visited by a support person with at least 4 days of program-specific training as often as weekly over 3 to 5 years. As another example, the Nurse-Family Partnership, which broadly targets mother-child well-being from pregnancy through 2 years of age, involves degreed nurses with additional, specialized program training who provide home visits approximately bimonthly through the child's second birthday.

Parent education and support programs take a variety of forms and, when well designed, provide essential, effective aid for families of young children.

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See also Family Engagement Models; Head Start; Home Visits; Parenting Effects on Child Development; Parents as Teachers

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- Parents as Teachers: <http://www.parentsasteachers.org>

PARENTS AS TEACHERS

The term *early childhood education* typically encompasses education for children from birth to age 5 (kindergarten entry) or, often, age 8 (third grade). Early childhood education services include center-based care for infants and toddlers, early Head Start, prekindergarten, and kindergarten. Common to all of these services is that they target the child, but not typically parents. Parenting education is of central importance to effective early childhood education.

It is a well-established fact that brain development begins before birth, and a tremendous amount of critical, deterministic development takes place in the first few years of life. The vast majority of a child's earliest experiences take place during interactions between children and their parents within the home environment. Very early experiences, starting prenatally and through the first year, have a strong impact on child development. Parents are the key drivers behind those experiences. It is critical, therefore, that effective early childhood education encompass parenting education. Children do not come with an "owner's manual," but parenting education can help parents develop their own, tailored to their individual child's development. A widely implemented delivery mechanism for parenting education is home visiting.

This entry describes the evidence-based Parents as Teachers model as an example of how home visiting serves as an important component of early childhood education.

Fundamental to the majority of home visiting models is the theory of change undergirding the

models, emphasizing that impacting parenting knowledge, attitudes, behaviors, and family well-being results in impacts on the child's developmental trajectory. Also common to most home visiting models and supported by learning theory and research is that services are taken to the family, take place in the family's home environment, and tend to be delivered over an extended period of time, often 2 years or more.

Parents as Teachers (PAT) is the nation's largest home visiting model. Developed and first implemented in Missouri in 1981, PAT has been educating and supporting parents in providing early learning experiences and environments that result in children who are physically, emotionally, and socially set on a trajectory for school success. Trained and certified parent educators deliver personal visits, typically in the home; offer group connection activities; conduct developmental, health, hearing, and other screenings; and make referrals to community, health, social service, and other resources as needed to expectant families and families with children birth through the kindergarten year.

The PAT approach is grounded in two related theories: Urie Bronfenbrenner's Bioecological Theory and Family Systems Theory, informed by the work of Dr. Murray Bowen. According to Bronfenbrenner, development is largely the result of relationships children have with their parents and other caregivers, and these relationships are influenced by the broader environment including extended families, neighborhoods, and larger society. A relationship with a parent educator is an example of a broader influence. Family Systems Theory grew out of Systems Theory, which holds that any system can be viewed as an organized whole. In Family Systems Theory, families are systems, and family members make up parts of the system. Each part of a system has characteristics: There are relationships between and among family members and each relationship impacts other relationships. Each family member, parents and children as well as others who may live in the home, affects and is affected by the behaviors of other individuals within that system. Families are in a

constant state of change requiring members to engage in constant efforts to restore balance.

Examples of how PAT embraces the main concepts in these two theories include the following:

- Services are provided within the family context, rather than outside of it.
- PAT is interaction- and relationship-focused—the focus is on both parents and children in interaction with one another—rather than solely child focused or parent focused.
- The PAT parent educator has a role within the family's larger social context as part of the family's social support network.
- PAT services are delivered by professionals housed within organizations or agencies in the families' community providing connections to the broader community, rather than by independent operators.
- PAT services are adapted to the broader social, cultural, and societal contexts in which families exist and incorporate resources beyond the immediate family members.

The goals of Parents as Teachers are fourfold:

- Increase parent knowledge of early childhood development and improve parenting practices
- Provide early detection of developmental delays and health issues
- Prevent child abuse and neglect
- Increase children's school readiness and school success

The personal visit is the heart of the PAT model. Guided and informed by a research-based and evidence-informed curriculum, parent educators emphasize development-centered parenting, parent-child interaction, and family well-being on every visit; share parenting strategies and child development information; engage parents in goal-setting activities; identify child, parent, and family needs; and connect the families with needed resources.

Research confirms that parents and children who receive Parents as Teachers services benefit in the following ways:

- PAT parents engage in more language and are more likely to promote reading in the home.
- PAT parents show significant improvements in parent knowledge, parenting behavior, and parenting attitudes.
- PAT participation was related to 50% fewer cases of suspected abuse and/or neglect.
- Children enter kindergarten ready to learn, and PAT participation helps narrow the opportunity gap for low-income children.
- PAT children continue to achieve school success into the elementary grades.

Home visiting models such as Parents as Teachers deliberately put parents at the helm of their child's early education, where they belong. As such, parenting education, especially through home visiting, has been shown to be a successful support to effective early childhood education.

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See also Home Visits; Home-Based Early Intervention Practices; Parenting Effects on Child Development; Parenting Support and Education

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PARENTS WHO ARE LESBIAN, GAY, BISEXUAL, TRANSGENDER, OR QUEER

Over the course of the last several decades, there has been an increase in the visibility of people who

are lesbian, gay, bisexual, transgender, or queer. Individuals who identify as *lesbian* are women who are attracted to other women and likewise the term *gay* is often used to refer to men who are attracted to other men, although the term *gay* can also be used for women. *Bisexual* is a broad term that usually means a person who is attracted to both men and women. The terms *lesbian*, *gay*, and *bisexual* are related to sexual orientation. *Transgender* is an umbrella term used for people whose anatomy doesn't match their gender. For example, a child can be born with male anatomy but as the child grows up, this individual is a female. A person who is transgender may choose to undergo hormone therapy and/or reconstructive surgery to transition into his or her inner gender. For many people, the term *queer* may have negative connotations, but it is a term used in the lesbian, gay, bisexual, transgender, and queer (LGBTQ) community in the same way other negative terms have been reclaimed by underrepresented groups. *Queer* is also term that has gained currency in the academy since the 1980s, with the development of queer theory and establishment of queer studies programs.

The terms *lesbian*, *gay*, *bisexual*, *transgender*, and *queer* are only a few of the words that can be used to denote someone who is other than straight and/or "male" or "female." For a more complete discussion on other terms used for sexual orientation and gender identity/expression, readers can refer to *The Social Justice Advocate's Handbook: A Guide to Gender* written by Sam Killerman and published in 2013.

A conservative estimate of the number of U.S. children with parents who are LGBTQ is 6 million. We do not have census data to determine if there are more parents who are LGBTQ now than previously as the U.S. Census only began asking questions about the sex of a partner beginning in 2000. An assumption could be made that there has been an increase because there are now more parents who openly identify (come out) as LGBTQ because there are more openly gay characters in the media, or because legal changes directly related to people who are LGBTQ, including the right to marry and

adopt children, have opened up new opportunities for people who are LGBTQ to start families. However, it should be noted that there have always been parents who are LGBTQ, and it is more likely that we are not seeing an increase in numbers, but instead we are witnessing the social change that results in more people feeling safe enough to come out.

Whether the number of parents who are LGBTQ has increased is not essential for those working in the early childhood field except to understand that the likelihood of having families whose children are in early childhood settings with LGBTQ parents is high, even in rural areas within the country. What is essential for early childhood educators is to have an understanding of the lived experiences of these parents and their children and to support all families.

Marriage and LGBTQ Parents

Just as marriage is not a prerequisite for a straight couple or single person to become a family, the same is true for parents who are LGBTQ. There are parents who are LGBTQ who choose to cohabitate and parents who are LGBTQ and single, just as there are straight parents who choose to remain unmarried or who are single. The difference is that until 2015, straight adults across the United States had the right to get married but the same right was not extended to LGBTQ couples in all U.S. states.

Becoming a Family

Families headed by LGBTQ parent(s) are made in a variety of ways (just as heterosexual parents make their families in a variety of ways). Some of the children in families with LGBTQ parent(s) are from previous heterosexual relationships in which the children are the birth children or adopted children of a once married or partnered straight couple. Other families are made after a same sex couple form a union, or a single LGBTQ person may be parenting alone either by choice or because a relationship has dissolved. Single or coupled/married males may adopt or use a surrogate.

The surrogate could be a friend or family member or could be someone who has entered the couple's life for the sole purpose of carrying and giving birth to the child. Although the surrogate gave birth to the child, in most cases one or both of the fathers will then adopt the child. Single or coupled/married lesbians may choose to adopt or give birth to a child. When choosing to give birth to a child, there are a variety of ways in which this can happen. A sperm donor may be employed, and that donor could be either someone who is known or an anonymous donor from a sperm bank.

For parents who are transgender, becoming a family can be as complex as it is for parents who are lesbian, gay, or bisexual, but there are additional complexities. If a parent is transitioning (anatomically) after children are a part of the family it may be impossible for the parent to be listed on the birth certificate because the certificate would need to be changed. For example, if a child was born to a "mother" and "father" as is listed on the birth certificate but then one parent transitions so that there are now two fathers, depending on the state in which the family resides, there may not be an option for two fathers to be listed on the birth certificate and thus have legal parental rights to the child. Single or partnered/married people who are transgender and trying to carry or adopt a child may find adoption agencies, sperm banks, or surrogacy agencies discriminate against them. People who are transgender are more likely to be discriminated against than people who are lesbian or gay with regard to having children.

Rights of Parents

As noted previously, there are LGBTQ parents who are single parents but in many cases they are the legal parent of their child(ren). For those families with two parents of the same sex who have children together, there are issues that are essential for early childhood educators to be aware of that may lead to additional stress for the families. On June 26, 2015, the U.S. Supreme Court ruled that the U.S. Constitution guarantees the right for same-sex couples to marry in all 50

U.S. states. Associate Justice Anthony Kennedy stated in the majority opinion: “The Court, in this decision, holds same-sex couples may exercise the fundamental right to marry in all States.” However, since this is a very recent ruling, in states that did not legally allow same sex marriage prior to the Supreme Court decision, it was often the case that only one of the parents was noted as a legal parent (listed on the birth certificate). It is possible that a number of couples who have since married have not taken steps to change the legal status of children. Additionally, if the family has been formed through adoption, there are states that permit only one of the parents to adopt the child. Again, this is the legal definition and not the working definition of *parent*. This is important information because if a person who is parenting is not listed on the birth certificate, that person’s rights as a parent are not protected. There have been cases in which there are two parents (moms) and the parent who is listed on the birth certificate has died, yet the other parent does not have a legal right to raise the child. In many cases, the family of the deceased parent has legal rights to the child and asserts that right with the removal of the child from the surviving parent.

The Role of the Early Childhood Educator

Early childhood educators are oftentimes the first connection parents have to a school or school setting such as a child care center, in-home family day care, or Head Start program. These initial interactions are important for all families, but for parents who are LGBTQ, their child(ren)’s first teachers can make the difference between the family feeling welcomed and supported or feeling invisible, unwelcomed, or even discriminated against. These initial, negative feelings toward the school setting can set the stage for subsequent years. Many times, the interactions that cause feelings of being unwelcomed by teachers are not necessarily intentional or even realized by the teacher but instead an act or omission that happened unknowingly.

Welcoming LGBTQ Parents Into Early Childhood Settings

Perhaps the most important thing a teacher or administrator can do to welcome LGBTQ parents into their settings is to educate themselves on the particular laws in their given state regarding people who are LGBTQ and to then consider how those laws impact families. By understanding the laws in their particular state, teachers can consider how they might welcome families even when, by legal definition, the family consisting of parents who are LGBTQ may not be defined as a family. Additionally, teachers and administrators need to be aware of any nondiscrimination policies held by their own centers and any funding agencies the center or staff work with as those anti-discrimination policies may include sexual orientation and/or gender identity or expression. If those terms are listed in the policies, it is imperative that teachers understand the implications if they do not adhere to requirements.

There are changes that can be made to the environment to make a welcoming center for families with parents who are LGBTQ. These include putting up pictures of many “types” of families with particular attention to families with two moms, two dads, or parents whose gender is not easy to discern; having developmentally appropriate literature for children in which there are parents who are LGBTQ; having materials in the classroom that depict various family structures including puzzles and dolls (having more than one “mom” doll in the dollhouse area); and being cognizant of the songs they sing and the stories they tell young children (changing words to a song so rather than having a mom and a dad in a song there are two dads). And finally, being careful and sensitive with language will help to welcome parents who are LGBTQ. When forms are developed, there can be spaces for “parent(s)/guardian(s)” rather than “mom” and “dad.” As letters are written home to families the salutation could read “Dear Families” rather than “Dear Mom and Dad.” In the center handbook, there could be a definition of *family* that includes parents who are LGBTQ.

Changes such as the ones just listed will help to welcome LGBTQ parents into early childhood settings. Parents want to know their child(ren) will be well taken care of, and one of the ways we can do this is by welcoming the entire family. Welcoming the entire family includes acknowledging the lived experiences of LGBTQ parents and their children by understanding current legislation within a given state, getting to know the individual families as each has a unique story, and making modifications to clearly invite and welcome families with parents who are lesbian, gay, bisexual, transgender, and queer.

Robin K. Fox

See also Adoption; Critical Theory; Cultural Competence; Diversity in Early Childhood Education; Family Structure; Gender Diversity; Postmodernism; Sexuality Development

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PARTNERSHIP TRANSITIONS

Increases in divorce, cohabitation, and nonmarital childbearing during the past few decades have increased young children's exposure to *partnership instability*, defined as a parent's entrance or exit from a coresidential union (i.e., marriage or cohabitation) or a dating, nonresidential partnership. In turn, exposure to partnership instability has been shown to increase child behavioral problems and interfere with school commitment and success. Partnership instability is especially pronounced among low-income populations and racial/ethnic minorities, suggesting that recent changes in family experiences may be exacerbating race/ethnic and class disparities in children's educational chances.

Partnership instability may also be contributing to the growing gender gap in education. Whereas prior to the 1980s, boys obtained more schooling than girls, today's boys are less likely to finish high school, enter college, and graduate from college than their female peers. Importantly, the widening education gap between boys and girls occurred during the same period as the increase in mothers' partnership instability, suggesting that the two trends may be related. Although boys and girls experience similar levels of exposure to family instability, there is some evidence that boys are more negatively affected by instability than girls. This implies that the increase in family instability during the past few decades may have disadvantaged boys relative to girls.

Early Schooling

Prior research on instability and children's education has focused largely on older children and adolescents. Yet, understanding how partnership instability affects the education of younger children is important. The early years of schooling represent a major life transition during early childhood. As children make the home-to-school transition, they must adapt to a new environment, negotiate new relationships with authority figures and peers, and behave based on a new set of expectations. Successfully negotiating the transition to school is critical because this period has important and long-lasting consequences. Children's experiences and performance at the start of school serve as a foundation for future academic progress and, importantly, launch children into trajectories of achievement. Problems during this critical transitional period, not just academically but also behaviorally, can be devastating. Given the cumulative nature of the curriculum, it is very difficult for children who do not perform well in the early grades to recover from this in later grades. Furthermore, schools' records of academic and behavioral problems follow children across grades and schools, influencing teachers' beliefs and expectations, which in turn affects children's future success in school.

Children's ability to successfully negotiate the move to elementary school plays a major role in their later achievement; yet, research suggests that many children have difficulty transitioning to the intellectual, behavioral, and social demands during this period. For example, boys, racial/ethnic minority children, and children with birthdays late in the school year are more likely to experience learning or behavioral problems during the first few years of formal schooling. Family characteristics that are consistently overrepresented among children with school adjustment problems include low parental education levels, family disruption, single parenthood, and family poverty. Given the growing rate of nonmarital childbearing and family instability, understanding relationship instability and its effects on children's education during this critical period is important.

Partnership Instability and Early Childhood

A wealth of empirical evidence links parental divorce or separation with poor child outcomes, including internalizing problems (e.g., depression and anxiety), externalizing problems (e.g., anti-social behavior), academic problems (e.g., low grades and low scores on achievement measures), and health problems (e.g., obesity). Remarriage is also found to be associated with poor child outcomes. In recent years, the field has responded to the increasingly diverse nature of American families by studying family structure change over time and by incorporating cohabiting and dating relationships into investigations of family instability. Research on elementary school children, in particular, indicates that coresidential (i.e., changes in marital or cohabiting unions) and dating instability predict parent- and teacher-reported behavioral problems. The association between partnership transitions and cognitive outcomes during early childhood is less clear, with some research reporting a significant, negative association and other research finding no association. In studies of cohabiting and dating transitions over time, researchers have also explored the extent to which the timing of transitions matters for young children's behavior and education. Typically, this work investigates differences in the effects of transitions that occurred early in a child's life versus those that occurred recently, often defined as transitions taking place in the past two years. Overall, findings are mixed and more research is needed on the role of proximity for understanding associations between partnership transitions and early child development.

To a large extent, explanations for the association between marital/cohabiting transitions and children's difficulties during early childhood draw on social stress theory. According to this theory, changes in economic, social, and health resources, brought on by changes in family structure, induce stress and diminish mothers' capacity for positive parenting, in turn negatively affecting children's development. Social stress theory also points to the cumulative nature of stressful experiences,

suggesting that parents who undergo one family structure change may be more likely to experience subsequent changes with the effects accumulating over time.

The impact of dating transitions on children may also be filtered through maternal resources and parenting. Indeed, some research suggests that higher levels of dating transitions are associated with higher levels of parenting stress and harsh parenting behaviors among mothers of young children. This may occur because dating reduces time spent with children or disrupts family rules and routines.

The negative effects of partnership instability on young children's education may also be because parents who undergo partnership transitions differ from those in stable relationships, and these differences may be the source of poor child outcomes. For example, a woman who has poor relationship skills may experience more partnership transitions and have children with more academic problems. In this case, the true cause of poor achievement is the mother's relationship skills rather than partnership instability.

Potential Differences by Child Gender

There are several theoretical reasons for expecting boys to respond more negatively to family disruptions than girls. The presence of a male role model may be more important for boys' identity, boys may be harder to manage than girls, or mothers may treat sons differently than daughters because of negative emotions toward the father or because of concerns about their child's safety. Research also suggests that boys may be more negatively affected than girls by disruption in the home. Following a divorce, mother-son relationships are generally more strained than mother-daughter relationships and boys exhibit more short- and long-term behavioral problems than girls. Gender differences in behavior and achievement may be even more pronounced for children exposed to multiple partnership transitions. Insofar as boys take longer than girls to adjust to a family transition, multiple transitions may be particularly problematic for boys.

Conclusion

Extant literature contains a number of implications for policies and programs aimed at strengthening families and improving child well-being. For example, policy makers and program providers need to pay close attention to gender differences in the effects of instability on children's behavioral problems. Several studies indicate that early behavioral problems are strong predictors not only of future behavior but also of educational and occupational attainment. Indeed, much of the success attributed to early childhood education programs is due to reductions in behavioral problems and improvements in social skills. To the extent that family instability has differential effects on boys and girls, the increase in instability during the past few decades may explain some of the growing gender disparity in school achievement.

Additionally, research points to the importance of moving beyond a focus on marital unions to include cohabiting as well as dating unions. The federal Healthy Marriage Initiative, begun during the George W. Bush administration, seeks to promote marriage by providing parents with training in relationships skills. Yet, research suggests that a stronger emphasis on relationship stability, regardless of the type of union, is important for promoting children's education, especially among young boys. Relatedly, policy should more seriously consider the impact that dating relationships have on the well-being of household members. These relationships are often not the focus of policies, but a growing body of evidence highlights the early developmental risks of all forms of partnership instability.

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See also At-Risk Families; Cohabitation; Determinants of Child Development; Family Structure; Family Structure Diversity in the Early Childhood Program

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PEABODY PICTURE VOCABULARY TEST

The Peabody Picture Vocabulary Test (PPVT) is a norm-referenced test designed to assess receptive vocabulary skills in children, adolescents, and adults. Though developed for use with a wide age

range, the PPVT is often used in early childhood contexts due to the rapid development of receptive language in early childhood and its relevance to academic and learning outcomes. This entry provides a brief history of the PPVT, a description of the test, and a review of current uses of the test in research and applied settings.

A Brief History of the PPVT

The PPVT has a long and established history in psychoeducational assessment and early childhood education. The original version of the PPVT was published in 1959, followed by a revised edition in 1981 and a third edition in 1997. The most current version is the PPVT, Fourth Edition, published in 2007. This latest revision includes updated pictures in full color, updated norms, and new vocabulary words and illustrations. Most relevant to early childhood assessment, the PPVT-4 includes a greater number of items at the easy end of the scale, with the purpose of improving the test's ability to accurately measure receptive language skills among very young children, children with disabilities, and children with a low level of vocabulary development.

Description of the PPVT

The PPVT is a standardized measure of receptive vocabulary for use with individuals from 2.5 years to 90 years of age. Receptive vocabulary is conceptualized as the ability to receive and understand spoken or written language and may also be referred to as hearing vocabulary, listening comprehension, or language comprehension. This is in contrast to expressive language that involves naming ability and word retrieval skills. For each item on the PPVT, examinees are presented with a page with four pictures. The examiner reads a single word aloud, and examinees are then asked to point to the one picture that best represents the meaning of that orally presented stimulus word. Thus, administration involves the examiner reading the words out loud, and the examinee then simply points to the picture corresponding to that word. The words contained in the PPVT items

include nouns (categories such as animals, body parts, and household objects), verbs (actions), and attributes.

The PPVT is an untimed, individually administered test. There are two parallel forms available (Form A and Form B), each with 228 items in the same format. Examinees do not take all 228 items; they take item sets based on age and appropriate difficulty level. As a norm-referenced test, the PPVT was normed on a large sample of individuals from across the United States. The PPVT provides users with several different types of scores to facilitate interpretation and description of students' performance when compared with same-age or same-grade peers. These normative scores include standard scores, percentiles, age equivalents, grade equivalents, stanines (a scaled test score method), and normal curve equivalents.

Because the PPVT is a standardized test, administration, scoring, and interpretation of PPVT scores should be limited to professionals who have had training in individual assessment using standardized procedures. Following standardized procedures is necessary to produce scores that are reliable and valid, and that lead to meaningful norm-referenced interpretation.

Current Uses of the PPVT

Research studies have used various editions of the PPVT as a measure of receptive language skills among children, adolescents, and young adults with developmental disabilities, communication disorders, Down syndrome, autism, traumatic brain injury, intellectual disabilities, learning disabilities, emotional disturbance, attention-deficit/hyperactivity disorder, low birth weight, genetic disorders, students in gifted programs, and students receiving special education services. In research contexts, the test is often used to study differences in language skills among different groups of children, to examine the relationship between demographic variables (e.g., sex, ethnicity, age) and language functioning, to study the influence of environmental factors (e.g., parental stress, socioeconomic status, exposure to environmental toxins) on language development, to investigate

the development of language using longitudinal designs, and to assess outcomes in intervention studies using pre/post designs.

In clinical and educational practice, the PPVT is used to provide a norm-referenced assessment of receptive language skills for the purpose of identifying children with disabilities, to develop instructional interventions, and to measure growth or progress in language skills over time (e.g., assessing response to instruction). Vocabulary represents acquired knowledge, often gained through reading or exposure to learning opportunities and enriching experiences. Since vocabulary acquisition is strongly correlated with reading comprehension skills, general academic readiness, and general cognitive ability, the PPVT is often used as a screening instrument because it is objective, is relatively quick and easy to administer, and has strong psychometric properties.

Given the range of clinical and research applications, the PPVT is a popular test among school psychologists, educational diagnosticians, neuropsychologists, and speech-language pathologists. The PPVT is often used in conjunction with the Expressive Vocabulary Test (EVT) to provide a comprehensive picture of language function, with the PPVT serving as a measure of receptive vocabulary and the EVT serving as a measure of expressive vocabulary or word retrieval.

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See also Assessing Children for Disabilities; Expressive Language; Language Development; Vocabulary

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PEDAGOGICAL KNOWLEDGE

Pedagogical knowledge might be defined as knowledge of teaching. Understanding teaching requires one to consider the overarching purposes or aims of education. Fundamentally, the purpose of teaching and education more broadly is that the individual(s) being taught learn something as an outcome of the teaching. Teaching might therefore be characterized as the range of activities a teacher engages in as he or she seeks to enhance the learning of his or her students. The challenge of these simple definitions is that teaching itself is so complex. Teaching is an interaction between a teacher and student(s) that requires not just a knowledge base (both content and pedagogical in nature) but also requires the ability to effectively and efficiently apply that knowledge base in the act of teaching with the outcome of supporting student learning.

Therefore, to understand pedagogical knowledge, one must first consider the wide range of activities that characterize teaching. For example, teaching includes any activity that positively influences student learning, such as planning for and implementing instruction, managing the learning environment, and evaluating student learning. Then one has to think about the knowledge and skill needed to productively engage in those teaching activities. Pedagogical knowledge, therefore, is the deep and varied knowledge teachers have about the processes or methods of teaching that, when implemented effectively, support student learning.

Developing sound pedagogical knowledge requires an understanding of cognitive, social, and developmental learning theories. More importantly, effective pedagogy relies upon the ability of the teacher to apply these theories when working with particular groups of children in classroom settings in ways that support the children's learning and development. Within the context of early childhood education (ECE), the National Association for the Education of Young Children (NAEYC) has articulated a vision of effective practice for teaching children from birth through age 8. The framework, known as *Developmentally Appropriate Practice* (DAP), was developed to promote excellence in ECE by providing a set of guidelines for establishing best practice. The framework, grounded in research on child development and learning and in the knowledge base that informs educational effectiveness, identifies five guidelines for effective teaching. These guidelines are as follows: (1) creating a caring community of learners, (2) teaching to enhance development and learning, (3) planning curriculum to achieve important goals, (4) assessing children's development and learning, and (5) establishing reciprocal relationships with families. A knowledge base informs each of these guidelines and has implications for what teachers do, how they do it, and why they do it. Enacting these guidelines relies upon teachers' pedagogical knowledge. This entry will provide an overview of the pedagogical knowledge and skill required of teachers to enact each of the five guidelines of effective teaching.

Creating a Caring Community of Learners

In order to create a caring community of learners, teachers must have an understanding of the role that safety and belonging play in supporting learning and development. In short, the foundation for such a context is consistent, positive, and caring relationships between and among community members. In ECE contexts, teachers must support and nurture caring relationships between teachers and children, between teachers and other adults in the setting

(coteachers, administrators, and children's families), and among the children themselves. A critical feature of a caring community is that all community members are responsible for contributing to their own well-being and the well-being of others in the community. Therefore, while the teacher does not bear sole responsibility for creating and maintaining a positive learning community, it is the teacher who designs and facilitates opportunities that encourage and enhance this responsibility in others. If creating a community of learners is part of the knowledge base of teaching, what then does the teacher do pedagogically?

The teacher creates many opportunities for children to play and work together as they interact with the learning environment and engage in learning activities. First, the teacher establishes a daily schedule and creates the physical environment to ensure that the classroom schedule and arrangement attends to and meets children's physical and emotional needs and safety. The physical environment includes all materials in the classroom, how the classroom is arranged, what materials are available, and how those materials are stored. Additionally, teachers have to consider how classroom materials are managed by deciding which materials are directly accessible to children and which might require more direct teacher supervision. Effective ECE teachers often use the physical arrangement of the classroom and the daily schedule as two ways that they convey clear, consistent, and reasonable limits on children's behavior and activity. This consistency creates a somewhat predictable environment where children, families, and teachers know what is expected and appropriate, which in turn encourages children's autonomy, independence, and self-confidence. Finally, the teacher plans investigations and projects that require collaboration. The teacher interacts with the children and encourages interactions among the children that require them to share their thinking, extend their thinking, and build upon each other's ideas as they work to solve problems while they learn and play. In addition to creating these opportunities, the teacher must also monitor, anticipate, prevent, and redirect behaviors that

interfere with learning or the maintenance of a caring community of learners. Through these processes, teachers also directly and indirectly teach children prosocial behaviors that enable children to positively contribute to the classroom community.

Teaching to Enhance Development and Learning

Teachers must understand that, from a child's birth, the child's family and other caring adults contribute greatly to the child's development and learning. While development (physical, social, emotional, and cognitive) tends to follow predictable patterns, teachers require deep developmental knowledge in order for them to recognize developmental variation across individuals as well as the unique patterns of development within particular children. Using broad developmental understandings, teachers design learning opportunities that are generally appropriate for the age of the children they teach. However, teachers must also apply the specific knowledge of the particular children they teach to design the most effective instruction that supports ongoing development and learning across various disciplines (language literacy, mathematics, social studies, science, art, music, physical education, and health). Teachers also know that children learn best when they actively construct their own knowledge and understanding. Such teachers recognize that children are best able to construct their understanding when they have opportunities to initiate and regulate their own learning and as they interact with peers, teachers, and other adults. Effective teachers strike an appropriate balance between learning experiences that might be considered either *adult-guided* or *child-guided*. In short, adult-guided experiences tend to be those that are explicitly planned and initiated by the teacher. In contrast, child-guided experiences emerge directly from children's own interests and actions. In both cases, the children and the teacher play an active role in learning. In planning teacher-guided experiences, the teacher designs experiences to ensure that children are actively engaged in learning. In child-guided

experiences, the teacher provides strategic support in ways that directs children toward those experiences that best support children's development and learning. If teaching to enhance development and learning is part of the knowledge base of teaching, what then does the teacher do pedagogically?

The teacher must align both child-guided and teacher-guided experiences to the desired goals of the program. Based upon this alignment, teachers implement curriculum reflecting stated goals to support learning and development. In order to best prepare to strategically support child-guided experiences, the teacher must gather information about children that helps to better understand or anticipate each child's interests, needs, and abilities. Such information can be gathered from families and also from the teacher's own interactions with and observations of children. In the classroom, teachers are best able to discover children's interests, needs, and abilities when they incorporate a wide variety of experiences and materials throughout the day and when they give children extended blocks of time to choose materials and experiences.

Often a teacher may have to extend the range of children's interests to achieve broad learning goals. A teacher does this by presenting novel experiences to children and by introducing stimulating ideas, intriguing problems, or counterintuitive hypotheses. These strategies encourage children's exploration of and engagement with ideas. The teacher supports this curiosity by asking open-ended or probing questions, by thinking aloud as a way of subtly directing children's attention to important experiences or observations, or by offering conjectures that challenge children's thinking or help them make connections that enable children to construct meaningful understandings. As the teacher and children interact in these ways, the teacher is ever mindful of targeting strategic support at a level just beyond what the child can do on his or her own.

Planning Curriculum to Achieve Important Goals

The curriculum, whether commercially published or teacher designed, articulates the knowledge, skills, abilities, and understandings children are

expected to acquire. A good curriculum is informed by early learning standards and knowledge of child development and learning. The teacher, however, is the one who brings life to the curriculum as it is enacted in the classroom. To do this well, teachers must know the children in their classrooms since even the best curricula require adaptation for specific groups of children. Teachers must also possess appropriate content knowledge—that is, the knowledge, skills, and abilities that they are responsible for helping children learn. However, in addition to knowing the subject matter they teach (language and literacy, mathematics, science, social studies, the arts, and physical activity), teachers must know the content developmentally. That is, teachers have to know how ideas within a subject area build upon one another, how children understand and think about the content, what aspects of the subject matter children of a particular age are likely to find challenging or confusing, and why particular subject matter concepts are difficult for children to understand. If planning curriculum is part of the knowledge base of teaching, what then does the teacher do pedagogically?

Teachers apply their rich and varied instructional repertoire and their content knowledge to design instruction that achieves important learning goals. In planning learning experiences, teachers consider typical developmental paths that children follow, and the sequence with which subject matter skills and concepts develop. Therefore, teachers design learning experiences that make connections across subject matter areas (literacy, mathematics, science, social studies, the arts) to support children's learning and development across domains (cognitive, emotional, physical, and social). Children learn through their play as well as through formal instruction. As such, teachers plan opportunities for children to learn and play in small groups, large groups, learning centers, and even outdoors. Teachers may utilize direct instruction, engage children in inquiry learning, or use instructional approaches like the Project Approach. Because teachers understand the affordances that each instructional approach provides, they intentionally align learning experiences with the most appropriate learning structure. Children's learning

and development is likely to be enhanced when they have sustained opportunities to explore topics in depth. Therefore, effective teachers draw upon children's interests or introduce them to topics of general interest to children to create a context that nurtures and encourages children's sustained attention over time. Teachers encourage such attention and engagement by providing a variety of ways for children to engage in the same or similar ideas across a set of learning opportunities, by encouraging children to ask their own questions, and supporting children in their efforts to seek answers to those questions.

Assessing Children's Development and Learning

In order for teachers to intentionally plan curriculum that supports children's development and learning, they must know where children are in relation to developmental markers and learning goals. Assessing children's development and learning is important for several reasons. First, teachers use assessment information to inform their planning and teaching to support both individual and group learning. Second, assessment information can be used to evaluate the overall quality of the ECE program and help teachers identify areas for their own professional improvement. Third, assessments in the form of developmental screenings can be used to identify children who may have unique developmental or learning needs. In addition to being knowledgeable of the different purposes of assessment, teachers, informed by learning and program goals, must determine what to assess. Once teachers determine what to assess, they have to consider the best ways to gather information about children's development and learning that enable them to determine where each child is in relation to learning goals and along a developmental continuum. If assessing children's development and learning is part of the knowledge base of teaching, what then does the teacher do pedagogically?

Teachers engage in ongoing, strategic, and purposeful assessment of children's learning and development on a daily basis. One of the most

important assessment skills that provide teachers with insights regarding children's learning is the ability of the teacher to carefully observe children. When observing children, teachers should focus on the processes children use when engaged in learning activities that often provide more useful information to teachers than whether the child was correct or incorrect. Because teachers use assessment information to inform future teaching decisions, teachers must document their observations and gather additional evidence of children's progress toward learning goals to support their teaching decisions. Teachers do this by collecting samples of children's work over time, talking with children to learn more about their thinking, and writing anecdotal notes to record details of and insights regarding children's engagement in learning tasks. An ability to do this well is dependent upon the teacher's pedagogical knowledge in each of the other areas previously elaborated upon above. For example, when talking with children to gain insight into their thinking, the teacher probes children's thinking with intentional and well-timed questions or comments that are informed by the teacher's developmental understanding of the subject matter and designed to elicit a child's thinking about significant elements of the content.

Establishing Reciprocal Relationships With Families

Developmentally Appropriate Practice informed by a teacher's pedagogical knowledge is based on broad developmental principles as well as a teacher's understanding of the broader contexts within which the children they teach live and grow. It is imperative for teachers of young children to acquire much of this knowledge through the productive and reciprocal relationships they actively develop with families. To do this, teachers must understand that families are diverse along a variety of dimensions: composition (single-parent families, blended families, extended families, etc.), culture, economic status, employment and housing status (homeless, unemployed, migrant families, etc.), sexual orientation, and religious beliefs.

In coming to know the families of the young children they teach, teachers must learn about the values of and expectations that each family has for their child(ren). Teachers must also learn about the broader social, cultural, and community contexts within which children live and consider how these contexts shape children's development and learning both inside and outside of the ECE setting. While teachers may gain some of this knowledge by learning about different cultures, the best way to gain such knowledge is experientially. Effective teachers gain such knowledge through the establishment of respectful and reciprocal relationships with families. If establishing reciprocal relationships with families is part of the knowledge base of teaching, what then does the teacher do pedagogically?

Teachers begin by creating a caring community of learners that recognize the children's families as integral members of that community. Families are made to feel welcome in early childhood settings and classrooms. Teachers greet each child and family as they arrive and depart each day, display family photos and artifacts around the classroom, and teachers and families regularly share anecdotes about children with each other. Families view teachers as a resource and advocate as teachers support children and adults through potentially difficult transitions, as a source of information about developmental issues, and links to a range of services outside of the ECE setting. Because the teacher recognizes that families want to be involved in their children's class but that not all are able to volunteer directly in the classroom, the teacher offers families a variety of ways to be involved. For example, parents might help by preparing materials for a class activity at home in the evenings. Finally, teachers and ECE settings schedule regular events for families and children where the teachers, families, and children can engage together as a community. Such events might include potluck dinners, family literacy nights, nature walks, participation in community events, or simply engaging in enriching learning activities that families and children can also easily do at home.

Conclusion

In short, pedagogical knowledge is the deep and varied knowledge teachers have about the processes or methods of teaching. A teacher with deep pedagogical knowledge creates a physical environment that promotes and protects the health and safety of all learning community members. Teachers with deep pedagogical knowledge possesses a rich and varied repertoire of teaching skills and strategies. They know how and when to choose specific strategies to effectively support children's learning and development. Teachers with deep pedagogical knowledge understand how students construct knowledge and acquire skills. They apply this knowledge as they plan and enact curriculum to help children develop habits of mind and positive dispositions toward meaningful learning and the achievement of important goals. Teachers with deep pedagogical knowledge select and use assessment strategies that are appropriate to the developmental and experiential needs of the children they teach. Such teachers use assessment information responsibly to inform future teaching decisions, to make program improvements, and to communicate with a child's family regarding the child's development and learning. Finally, a teacher with deep pedagogical knowledge establishes and nurtures respectful and reciprocal relationships with families. When implemented effectively, such pedagogical knowledge supports children's development and learning.

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See also Approaches to Early Mathematics Instruction; Approaches to Learning; Content Knowledge; Curriculum and Early Childhood Education; Developmentally Appropriate Practice; Early Childhood Science Experiences; Inquiry-Based Learning; Project Approach

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PEERS AND PLAY

For young children, the principal source of peer interaction occurs during play. In contrast to interactions between older students and adults, who often have exclusively task-oriented reasons to interact, the primary form of interacting for young children is within the bounds of playing together. Dating back to the observations of Greek philosophers, play has been considered characteristic behavior of young children. Indeed, play has often been considered as a process in which children are able to practice the behaviors and skills they need as adults. As such, adults should structure and promote play around experiences that would prepare children for the expectations of the adult world. In this way, play has been considered the child's work. This entry reviews the development of children's play with

peers and highlights the important context of gender within play. It also highlights how adults can promote healthy play.

The Importance of Peer Play

Peer play has increasingly been recognized as having a significant role in children's *social-emotional* and *cognitive* development. For example, child development theorists Jean Piaget and Lev Vygotsky proposed comprehensive theories of children's cognitive development in which play had an integral role. Both Piaget and Vygotsky considered children active constructors of their own learning. Piaget proposed that play was an opportunity for children to practice what they already knew but was not a mechanism for new learning. Vygotsky, on the other hand, considered play—particularly make-believe play with peers—as crucial to building new cognitive and social-emotional knowledge. Vygotsky proposed that when children play with one another, especially with more advanced peers, the exposure to skills currently outside of their reach advances their *zone of proximal development*, a level of ability that can be reached with assistance from others but not alone. Further, peer play was a highly effective format for children to practice and hone language skills, thereby facilitating cognitive advancement.

Play is now also widely regarded as crucial for children's social development. Through play, children experiment with different roles and identities and learn how to navigate social norms, providing opportunities to learn and practice self-control, emotional expression, perspective taking, and conflict resolution, which ultimately help children build and maintain positive relationships with their peers as well as adults. For example, when a group of children decide to operate a make-believe grocery store, if the experience is to be successful, they must be able to listen to diverse ideas as well as to communicate their own, demonstrate self-control when others hinder their plans, and pay attention to and remember the group's agreed-upon parameters about the store.

Developmental Sequence and Types of Play

Social scientists are particularly interested in how, when, and why children choose (or not) to play with each other across the early childhood period. These scientists focus largely on the changing types and priorities in play, noting that play tends to increase in complexity and becomes increasingly peer-oriented as children mature. In the first year of life, infants prefer to explore the immediate environment and maintain close proximity to a caregiver. Research shows that up to 3 years of age, children continue to prefer to play with a nurturing adult nearby in small-scale spaces. When children reach preschool ages (about 3 to 6 years old), their favorite activities involve specific types of play with their friends. However, as children navigate novel non-home settings comprised of unfamiliar children and adults, play without peers may predominate. *Solitary independent* play involves playing by oneself (e.g., painting a watercolor picture). Similar, but distinct, *parallel* play involves engrossed, independent play alongside but not with others, even in the middle of a group and even sharing materials (e.g., building one's own block structure from a community block set).

As children mature, their play increasingly acknowledges and incorporates peers into their play, even when they do not specifically engage in activities collaboratively: *Onlooker behavior* play involves watching or talking to peers engaged in play activities, but not engaging oneself (e.g., standing near and watching other children taking turns sliding down a slide), and *associative* play involves sharing materials and talking to others but not coordinating objectives or interests (e.g., as they share props from the dress-up box, one child discusses plans to put out imaginary fires, whereas another discusses plans to perform as a magician). Toward the beginning of formal school, children tend to prefer play with peers. *Cooperative* play occurs when children engage in activities that require the participation of the group with specific roles, rules, and goals (e.g., playing hide-and-seek and tag games).

Pretend play is a type of play that can involve peers or not. Pretend, or fantasy, play emerges as early as the second year of life but is considered to peak between 3 and 5 years. This ability requires self-awareness, cognitive awareness, and language skills, and is considered uniquely human. Pretend *dramatic* play, moreover, requires skills to construct meaning and imaginative stories, enriched by the presence and participation of peers. Children at the older end of the early childhood spectrum often engage cooperatively in dramatic play (e.g., assigning roles of clown, lion tamer, tightrope walker, and acrobat to play circus). Thus, as children get older, play behaviors become increasingly more social and complex, and they spend less time playing alone or alongside their peers.

The Role of Gender in Young Children's Peer Play

One of the most salient features of children's peer play is their strong preference to play with peers of the same sex. This sex segregation—the separation of boys and girls into same-sex peer groups—is a well-documented phenomenon and is one of the most universal aspects of development. Sex segregation begins around the age of 3 years and increases throughout childhood. By the time children enter preschool, boys and girls show strong and consistent preferences for play with same-sex peers. By most estimates, over half of all young children's peer interactions involve play with only same-sex peers (e.g., girls playing with girls), about 30% involve mixed-sex peers (e.g., girls playing with a group of boys and girls), and less than 10% of peer interactions involve play only with other-sex peers (e.g., girls playing with boys). With age, children's preference for same-sex peer play increases, at least through elementary school.

Same-sex play is most evident when children are allowed to make their own play choices, such as when activities are unstructured and when adults are not immediately present or engaged in children's play (e.g., outdoor free-choice recess). Moreover, these preferences are difficult to change. For instance, teachers can increase the amount of other-sex play by providing reinforcement for such

interactions. However, when the reinforcement is no longer available, children quickly return to baseline levels of segregated play.

Early childhood peers actively influence each other's behaviors, attitudes, interests, abilities, and motivation, and playing with boys provides different opportunities and experiences from playing with girls. Boys tend to play in larger groups, in more public places, and with less proximity to supervision than do girls. Boys' play also tends to be rougher and more active than girls' play, and more often involves physical contact and fighting. Boys quickly establish a hierarchical order that tends to remain stable over time. In contrast, hierarchies in girls' groups are more fluid. Girls often emphasize cooperation and verbal interaction among play partners and use enabling forms of communication that promote group harmony. Compared with boys' groups, girls' groups are more likely to select activities that are structured by adults and that are governed by strict social rules.

Experiences gained within boys' and girls' peer groups promote different behavioral norms and interaction styles. Over time, repeated exposure to these different norms and interaction styles lead to the development of different skills, attitudes, motives, interests, and behaviors. For example, patterns of behavior and attitudes that are commonly thought of as being boylike (e.g., "he's so strong") or girllike (e.g., "she's so graceful") may be the result of boys playing with boys in boylike ways, and girls playing with girls in girllike ways. Additionally, same-sex peer play sets the stage for considering other-sex peers as less desirable, promoting bias and exclusionary attitudes. In this way, children's early sex-segregated peer relationships appear to set the stage for sex differences and stereotyped behavior and attitudes. Importantly, these effects are *dosage dependent*, meaning the more time children spend playing with same-sex peers, the stronger the socializing effects become. Moreover, the effects are seen relatively quickly. Some evidence suggests that the effects can occur in a just a few months of time at school. As such, young children's same-sex peer play groups represent a powerful context for socialization.

The potential consequences produced by early sex-segregated play groups are significant for development not only in childhood but considerably beyond, when children converge as teens and adults. Several scholars have argued that boys and girls grow up in different social worlds and that the different social histories of males and females that likely originate in the context of young children's same-sex play affect the relationships of heterosexual couples and the nature of cross-sex interactions that occur in the home and in the workplace.

Early Childhood Contexts That Promote Play and Learning

As described, play serves a number of varied purposes and has important implications for children's healthy developmental. Adults sometimes view play as the opposite of learning, because it appears less work oriented than a stereotypical lesson. However, this is a false dichotomy: Play is the foundation of young children's learning.

To maximize the learning benefits associated with play, young children need environments that are conducive to varied types of play including with diverse groups of peers, as well as teachers who facilitate play in developmentally appropriate ways. Children need physical space and structures, such as large blocks of time that allow them to initiate and direct play and to explore materials that interest them. Children are attracted to sociodramatic play materials associated with real-life scenarios and roles they can relate to or are learning about, such as trips to the doctor's office, eating out at a restaurant, planting a garden, or being dinosaurs. They are also drawn to play opportunities that allow them to practice developing fine and gross motor skills such as balancing objects (e.g., building blocks), climbing (on play structures), and drawing. When children know where to find play materials and what materials are available to them in prepared environments (e.g., through labeling of play areas and storing materials in clear bins), they are better able to take full advantage of creative play opportunities.

Opportunities for unstructured, child-directed play are important, but adult facilitation can enhance the learning that occurs during play. For example, adults can structure play opportunities around specific learning goals. If children are learning about various professions, adults might set up play stations that allow children to enact roles as bakers, scientists, or teachers. Adults can also promote children's use of language and higher order thinking skills during play activities. By posing open-ended questions, asking children to make predictions pertaining to various scenarios, and integrating advanced and varied vocabulary in conversations with children, adults promote children's capacity for expressive language as well as their ability to think more abstractly about ideas emanating from play.

Adults' facilitation of children's play is also important to enhance the potential for social learning through play. For example, an adult may guide a shy child in initiating play with peers, or conversely, help a child adept at taking charge to accept peers' directions. Adults can create opportunities for boys and girls to play together when they may otherwise gravitate toward same-sex play. Group play is also a prime opportunity for adults to help children resolve conflicts when disputes arise. Because play is also enjoyable, experiences and environments involving play become associated with people, places, and things children enjoy. This suggests the importance of play in early development as a means to promote children's positive feelings toward school. In summary, when adults are purposeful in the way they structure a child's day and interactions with peers, development, learning, and well-being can be greatly enhanced.

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See also Friendships; Gender Roles; Play, Curriculum, and Pedagogy; Play and Early Childhood Education; Social Play and Cognitive Development

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PERSONNEL PREPARATION FOR EARLY INTERVENTION

Personnel preparation refers to an organized program of study that prepares individuals for careers. The focus of this entry is on preparation of teachers for early intervention. Teacher preparation programs generally include both coursework and field-based experiences.

Teacher preparation is generally thought of as occurring at the preservice or in-service level. Preservice preparation refers to the program of study and training that occurs prior to taking a teaching position. In-service refers to coursework or training for those who are already engaged in the profession of teaching. This is an artificial distinction in early intervention in that many individuals take on the role of teacher before they have completed a formal personnel preparation program. With increasing requirements for college degrees and demonstration of performance competencies, more teachers are completing preparation programs while they continue their employment. They will then advance their knowledge and skills

through ongoing participation in in-service learning activities. The competencies and professional standards described below are relevant guides for both preservice and in-service programs.

Context

Historically, teachers of young children entered the workforce with limited formal preparation but an eagerness to work with young children and foster their development and learning. In the latter half of the 20th century, there was increasing awareness of the importance of teacher preparation to ensure that teachers had an understanding of child development and learning and other important areas of knowledge.

It is now established that a necessary ingredient for the design and delivery of high-quality education and care for young children is a well-prepared workforce. The workforce must have the requisite knowledge and skills to use evidence-based practices that promote positive outcomes for children and support for their families. In this era of accountability, there are high expectations for teacher candidates as they complete preservice preparation programs. These expectations appear as professional standards that are rigorous and measurable. The intention is that personnel preparation programs ensure that candidates possess and demonstrate these standards—the knowledge, skills, and sometimes, dispositions needed to effectively guide and teach young children.

Professional Standards

Professional associations have a commitment to policies that support development and renewal of professional standards. Colleges and universities use the standards to design, implement, and evaluate preservice preparation programs as well as advanced degree programs.

The National Association for the Education of Young Children (NAEYC), the major professional organization for early education and care professionals in the United States, outlines six professional standards. These standards and explanatory

statements are organized into the following areas: (1) promoting child development and learning, (2) building family and community relationships, (3) observing, documenting, and assessing to support young children and families, (4) using developmentally effective approaches to connect with children and families, (5) using content knowledge to build meaningful curriculum, and (6) becoming a professional. The standards, published in 2010, were developed through a multistep process that incorporated current research and expert knowledge. The content areas of the standards are appropriate across associate, bachelor, and advanced degree levels.

The Council for Exceptional Children (CEC) and its relevant division, the Division for Early Childhood (DEC), recognizes that use of evidence-based practices in the education and care of young children with disabilities and other special needs is essential for children to reach their potential. These organizations have ongoing processes to update and disseminate professional standards for beginning and advanced teachers. CEC's most recent version of the professional standards for special educators are organized into seven areas: (1) learner development and individual learning differences, (2) learning environments, (3) curricular content knowledge, (4) assessment, (5) instructional planning and strategies, (6) professional learning, and (7) collaboration.

DEC develops and validates professional standards that are based on the CEC standards and then specialized for early intervention/early childhood special education. The current set of early childhood standards are based on the slightly earlier set of 10 CEC school-age standards. Since 1993, DEC and NAEYC have worked together to present professional standards that are aligned for the workforce and yet address the needs of diverse young learners including those with disabilities. The initial Early Intervention and Early Childhood Special Education (EI/ECSE) special set of professional standards are endorsed by DEC and NAEYC. DEC undertook a process to align the DEC standards with the NAEYC standards. The analysis showed greatest agreement in the areas of

partnering with families, collaboration, and content knowledge. There was weakest agreement in the area of instructional strategies. This makes sense in that the DEC standards are specifically intended to clarify the specialized knowledge and skills required to meet the needs of diverse learners. Further, the alignment or agreement of most content areas bodes well for inclusive programs in which teachers guide the development and learning of children with and without disabilities.

Both NAEYC and CEC now have newer, revised versions of their professional standards. A rigorous process is in place to update the EI/ECSE specialty set of standards for young children. This process includes representation from DEC, NAEYC, and the Early Childhood Personnel Center (funded by the U.S. Department of Education), and new alignment of standards is expected in late 2015.

In addition to college-level preparation leading to a bachelor's or advanced degree, the Child Development Associate (CDA) credential is recognized as an entry-level qualification for some early learning programs such as child care and Early Head Start. The credential is based on a core set of standards that students meet through coursework, experiences, presentation of a portfolio, and an exam. The Council for Professional Recognition administers the credentialing program. The subject areas are (a) planning a safe, healthy learning environment; (b) advancing children's physical and intellectual development; (c) supporting children's social and emotional development; (d) building productive relationships with families; (e) managing an effective operation; (f) maintaining a commitment to professionalism; (g) observing and recording children's behavior; and (h) understanding principles of child development and learning.

The Institute of Medicine, National Research Council recently published the newest set of knowledge and competencies for the early childhood education field. An expert committee of researchers identified this set of knowledge and competencies based on the latest research. The competencies are organized into a set of foundations for all adults with professional responsibilities for young children. These appear as knowledge

areas (development and learning, relationships and learning opportunities, support and stress factors) and skills areas (engage in interactions, promote social development, observation and screening, and awareness of technology to support learning). The next set is the specialized knowledge and competencies needed by care and education professionals who work directly with young children. More specific knowledge and competencies are organized into five areas: (1) core knowledge base, (2) practices to help children learn, (3) working with diverse populations of children, (4) developing and using partnerships, and (5) continuously improving the quality of practice.

These sets of competencies and professional standards show some similarity. They also show the growing recognition that early childhood educators are professionals who have a recognized knowledge base that is founded on scientific research. To achieve the goal of high-quality education and care for young children, it is expected that teachers will demonstrate these competencies.

Accreditation

In the 1990s, some personnel preparation programs began to consider and develop preparation curricula that blended both general early childhood and special education content and led to dual certification. As states began to recognize this option, DEC, CEC, and NAEYC collaborated in order to guide and support the effort. One outcome was approval by the National Council for the Accreditation of Educator Recognition (NCATE, now the Council for the Accreditation of Educator Preparation [CAEP]) for the joint review of early childhood proposals for accreditation. CAEP is the accrediting body for educator preparation programs in the United States.

For the most part, colleges and universities have the responsibility for preparing early childhood educators with sound coursework and field-based learning opportunities. Personnel preparation programs provide learning opportunities that are aligned with the standards and competencies, assess teacher candidates on their demonstration

of the competencies, and assure the certifying or credentialing agency that teacher candidates meet the professional standards. While the CDA is administered by a private organization, teacher certification is administered by states. Most states use the professional standards described by professional organizations as the basis for their awarding of certification.

Finally, colleges and universities have the responsibility for the design and delivery of high-quality personnel preparation programs. While the demand for highly qualified early childhood teachers with at least a bachelor's degree has grown in recent years, there are barriers for current and future teachers who desire a quality program. The barriers include lack of access to nearby colleges, lack of affordable programs for teachers who work in a field with relatively low salaries, lack of relevance to early childhood (i.e., some colleges offer only elementary education majors rather than providing an early childhood focus), and lack of effectiveness (i.e., the link between the preparation program and child outcomes is not known). However, with increased demand, increased attention by researchers and policy makers on early intervention for all children, and innovations in both in-person and online programs, the quality of personnel preparation programs is expected to grow.

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See also Early Childhood Teacher Education; Early Intervention; Internships; Master Teachers; Student Teaching and Internships, Issues in; Teacher Preparation Policy and Practice

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PHONOLOGICAL ABILITY

Phonological ability is a skill set necessary for reading and spoken language. Specifically, the ability to hear, process, produce, and manipulate speech sounds (also called *phonemes*) contribute to a child's ability to learn to decode words as well as produce age-appropriate speech sounds. This entry provides information about typical phonological ability as well as several suggestions for appropriate assessment and early intervention for children who are assessed as having delayed phonological ability.

Overview

Phonological ability can be explained broadly in two ways: receptive skills and expressive skills. Receptive phonological skills comprise phonological awareness, phonological working memory, and phonological retrieval. First, phonological awareness is the explicit knowledge of the speech sounds within the language. Rhyming is a common example of a phonological awareness task. The ability to rhyme showcases a child's knowledge of phonological similarities (e.g., “rat” and “mat” sound the same at the end of the word). Often, preschool-age children have the capacity to rhyme—either by identification tasks (e.g., “Tell me which word rhymes with *cat* . . . *may*, *man*, *mat*”) or production tasks (e.g., “Tell me a word that rhymes with

‘sun’”). By school age, it is expected that children are able to perform more complex tasks that tap into phonological awareness. For instance, deletion tasks require children to remove one unit from a word (e.g., “say ‘cowboy’ without ‘cow’; say ‘cat’ without the /k/ sound). Second, phonological working memory tasks require a child to retain phonological information in a limited capacity memory space, manipulate it in some way, and reproduce it. As an example, a number reversal task requires that a child listen to a list of numbers, mentally rearrange the order of the numbers, and produce the list of numbers in reverse order. A common way that phonological memory is often measured is through the use of a nonword repetition task. Such a task requires children to listen to an increasingly complex list of nonwords (i.e., words that follow the phonological patterns of English but do not have meaning in English) and repeat them. Children who struggle with this type of task are often at risk for struggling with reading. Third, phonological retrieval is a skill that requires children to name pictured objects or colors, sometimes in a timed fashion to gauge their access to phonological forms. Simple naming tasks, such as naming the letters of the alphabet, the colors of the rainbow, or common animals, require phonological retrieval, among other language-based skills.

Expressive phonological skills refer to accurate speech sound production. It is very common, early in language development, for children to make particular substitutions during speech sound production. For example, certain phonemes, such as /r/ as in “rain” or “th” as in “thumb,” are more difficult to produce; children may produce these words as “wain” or “fum.” Over time, and by the age of 8, it is expected that children will appropriately acquire correct production of all phonemes. By the age of 3, it is expected that approximately 75% of what a child says can be understood by familiar communication partners. This increases to 90% by age 5. Still, some children struggle with accurate production of speech sounds, putting them at risk for later reading and academic difficulties.

Theory

One common theory that supports the acquisition of phonological ability is the idea of phonological representations. Phonological representations are the means by which phonological information is stored in memory. It is theorized that these representations grow over time through exposure to the necessary phonological information (e.g., through hearing the ambient language, being read to, etc.). For individuals who struggle with phonological ability—such as those with dyslexia, or those with speech sound disorders—it is hypothesized that their phonological representation is weak or underspecified.

Research

Phonological ability is crucial to the growth of reading skills in young children. Children who struggle with phonological awareness tasks often later struggle with word decoding—a necessary piece of successful reading. Phonological ability supports reading by helping to build letter–sound correspondences—the skills needed to learn that alphabet letters not only have names but also make specific sounds. The complex ways that letter sounds change depending on their surrounding letters is a crucial skill necessary for reading. As an example, the letter *C* might sound like /k/ or might sound like /s/ depending on the context. *C* takes on a different sound when it is near *H*, as in *cheese*, or makes no sound at all, in the word *yacht*. Additionally, learning how to synthesize decoded sounds into words takes practice and helps to build “sight words.” Through this practice, children with strong phonological ability learn more new words over time and develop proficient reading skills. Phonological ability can, and should, be assessed in young children to gauge their risk for reading disabilities. This is especially true for young children who have expressive phonological disorders (e.g., difficulty producing speech sounds). Using some of the tasks listed here (e.g., rhyming, phoneme deletion, nonword repetition), teachers or clinicians can obtain useful information about a child’s phonological ability. Extensive

research has shown that this skill can be taught to preschool and school-age children through explicit and systematic instruction. As such, early identification and intervention is key to the prevention and/or remediation of reading difficulties.

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See also Communication Disabilities; Language Development; Literacy; Literacy Assessment; Speech Development; Speech Development, Issues in

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PHYSICAL DISABILITIES

Physical disabilities are severe orthopedic impairments that influence a child's gross motor (large muscles) development and/or fine motor (small muscles) development. Physical disabilities often have a negative influence on a young child's ability to participate with other children in social or educational settings. In the United States, physical disabilities are referred to as "orthopedic impairments" under the Individuals with Disabilities Education Improvement Act (IDEA). This entry provides information about categories of physical

disabilities found in young children, the types of support young children with physical disabilities need, and how children in early childhood settings are served through interdisciplinary teams of professionals.

Categories of Physical Disabilities

Physical disabilities can be divided into three main categories. These include (1) neuromotor differences, (2) musculoskeletal disabilities, and (3) degenerative disorders.

Neuromotor Differences

Neuromotor differences are the result of damage to the nervous system, spinal cord, or brain and are most often present before or during birth. Neuromotor differences may result in complex motor difficulties. Two of the most common neuromotor disabilities are *spina bifida* and *cerebral palsy*.

Spina bifida is characterized by a developmental difference in the spinal column that occurs during prenatal development. Paralysis often results. The level of paralysis depends on the severity of the condition and intellectual ability may or may not be affected. *Spina bifida cystica* is the most severe type of spina bifida while *spina bifida occulta* is the milder form.

Cerebral palsy results from damage to the motor control area of the brain. This can occur before, during, or after birth. However, many children develop cerebral palsy during birth because of a long and difficult labor. Children with cerebral palsy may have hypertonic muscle tone (stiff or tight muscles) or hypotonic muscle tone (flaccid or floppy muscles). Cerebral palsy can cause difficulties in mobility (e.g., crawling, walking). Another way to characterize cerebral palsy is by the number of affected limbs (i.e., arms and legs). *Paraplegia* refers to limitations or difficulties in the legs, while *diplegia* means that all four limbs are affected but the legs have more difficulties than the arms. *Quadraplegia* indicates that both arms and legs are affected and have impaired movement or limitations, while *hemiplegia* means that either the right

or left side of the body is affected or has impaired movement or limitations.

Musculoskeletal Disorders (MSD)

Musculoskeletal disorders (MSD) represent a category of several conditions involving muscle tendons and joints that result in physical limitations. An example of musculoskeletal disorders is *juvenile idiopathic arthritis*, also known as *juvenile rheumatoid arthritis*. Juvenile idiopathic arthritis usually manifests in childhood any time before 1 year of age to 16 years. There are several types of juvenile idiopathic arthritis that include oligoarthritis, enthesitis-related arthritis, psoriatic arthritis, polyarticular arthritis, systemic arthritis, and undifferentiated. In most cases, the symptoms are swelling and joint pain. The cause is thought to be related to an autoimmune disorder. Other musculoskeletal disorders include problems with the position or shape of a child's legs, feet, or knees. The causes of some musculoskeletal disorders are burns, broken bones, or other maladies that result in damage to the bones or muscles.

Degenerative Disorders

Physical disabilities caused by degenerative disorders result from diseases that increasingly affect physical development. *Muscular dystrophy* is one of the most common degenerative diseases in young children. Muscular dystrophy is a genetic disorder that gradually weakens muscles involved with mobility. These muscles become weaker over time, resulting in diminishing motor abilities and the degenerative nature of the disorder. There are numerous types of muscular dystrophy, the most common being *Duchenne*. Other forms include *congenital muscular dystrophy*, *myotonic*, *facioscapulo-humeral*, and *limb-girdle muscular dystrophy*.

Education

Young children with physical disabilities receive education and special services through the Individuals with Disabilities Education Improvement Act (IDEA) in the United States. The Division

of Early Childhood (DEC) of the Council for Exceptional Children (CEC) has published the research on evidence-based practices for children with disabilities, including children with physical disabilities. This research and guidelines for educating young children with physical and other disabilities can be found in *DEC Recommended Practices in Early Intervention/Early Childhood Special Education* (2014). Evidence-based practices include appropriate assessment, child-focused instruction, family-based services, and teaming and collaboration. Further, recommended practices suggest that young children with physical disabilities should be included in general early childhood programs whenever possible. Instruction and support, including physical therapy, occupational therapy, speech-language therapy, and other services, should be implemented in the natural environment of young children, which may be in the home, child care, preschool, public school, or other community settings. Routine-based activities within the context of natural environments are recommended for children with physical and other disabilities. Professional support and related services should be provided through collaboration with the family and other professionals in natural environments and inclusive settings. Finally, with regard to education, there have been many studies that report the benefits of early intervention and early childhood special education for young children with physical disabilities. In order to provide benefits for children with physical disabilities in educational settings, however, there is often a need for special equipment or materials, environmental adaptations, and specific considerations for intervention and instruction.

Support

Children with physical disabilities often require *physical therapy* and/or *occupational therapy*. Physical therapy involves help with gross motor skills and mobility (walking or moving). Physical therapists often assist children with orthopedic impairments with sitting, positioning, transferring, and moving from place to place. Physical

therapists may recommend wheelchair support, orthopedic devices, or other equipment to help a child with mobility. They may also recommend special devices to help the child sit, stand, or support the body, especially when participating with other children in group activities.

Occupational therapy is about self-care skills, such as dressing, eating, bathing, and toileting. Occupational therapy also involves fine motor skills required of a child when using writing implements such as crayons or pencils when learning to write or paintbrushes for craft activities. Occupational therapists may suggest a special implement for writing or a device for gripping a crayon or a pencil. They may recommend adapted cups or eating utensils to help a child with a physical disability develop independence and support when eating. Velcro, large zippers, or other equipment may be recommended by the occupational therapist to help a child with dressing and undressing.

Speech-language pathology is another support that some students with physical disabilities need. For example, some children with cerebral palsy require speech therapy. Because cerebral palsy is the result of damage to the motor control area of the brain, the muscles involved in speech often are affected. Children with degenerative muscle problems will probably need speech-language pathology as the muscles continue to weaken over time and influence the children's speech.

The Need for Special Equipment and/or Materials

Assistive technology includes any item, equipment, or system that increases, maintains, or improves functional capabilities of individuals with disabilities. Children with atypical muscle tone (both hypotonic and hypertonic) often require seating and positioning support or equipment. Orthotic devices to facilitate lower body support and movement or prosthetic equipment to improve access to the environment or use with ambulation are sometimes necessary. Children with limited muscle strength may need

adaptations that help with manipulation. Special scissors, drinking cups, spoons, and grasping devices help some children participate in classroom activities and feed themselves. Velcro straps can be used to help with dressing, while other equipment is needed for positioning, lifting, carrying, and transitional experiences such as moving from one activity to the next (e.g., classroom group activities to outdoor activities on the playground). Physical and occupational therapists should be consulted to make sure that special equipment and materials are optimal, are used appropriately, and are the most appropriate for ensuring the child's full participation in daily living, social experiences, and educational opportunities.

Adaptations at Home and School

Because many children with physical disabilities often use assistive technology, the physical environment in the home, school, and community settings should be prepared for maximum accessibility. Assistive devices are designed to promote independence and help the children focus their attention. Those who use walkers, wheelchairs, and other mobility devices need adequate space for ambulation and interactions with adults and other children. Child-size railings and ramps often are used to facilitate movement. Adapted seating and work surfaces help provide access for the children who need such adaptations. Materials also should be readily available at children's eye level and reach that are prepared specifically to accommodate their range of motion.

Because a major goal for children with physical disabilities is to achieve independence, placing objects such as food and toys within easy reach of a child with physical disabilities is a major consideration. Seating and positioning devices are sometimes used to promote appropriate muscle tone and aid in physical development. Numerous seating options that may include wedges, pillows, adaptive chairs, and other apparatuses should be available in home, school, and other environments.

Special Considerations for Early Childhood Education/Instruction/Intervention

For children with physical disabilities who have communication, intellectual, or social needs, adaptations to the environment may require the use of educational and assistive technology that facilitates communication, learning, and interaction with peers. Educational and assistive technology can reduce the impact of children's impairment on their capacity to participate in the learning environment.

Fatigue is a common experience for children with physical disabilities. Families, teachers, and therapists work together to examine and plan appropriate schedules for young children with physical disabilities that are appropriately challenging but not excessively stressful. Transitions from one activity or location to the next may exacerbate stress and fatigue if transitions are not given enough consideration or time. Teachers, therapists, and family members should discuss the nature of transitions in the classroom or home, the time-frame necessary to make transitions, the need (or lack of need) for certain transitions, and the specific support the child with physical disabilities needs to accomplish transitions.

Children with physical disabilities in inclusive settings can experience peer support during transitions; however, this should not be considered one-way support. Young children with disabilities also should be given responsibilities for contributing and interacting with their peers during transitions and classroom activities. For example, a child who has a walker with a basket can be asked to carry simple materials from one place to the next. Professionals and families may need to examine their approach to addressing the needs of children with physical disabilities, considering whether they exhibit expectations that are inappropriate or overprotective behaviors.

Conclusion

Young children with physical disabilities are individuals with "orthopedic impairments" under the Individuals with Disabilities Education

Improvement Act (IDEA). There are three main categories of individuals with physical disabilities. These include (1) neuromotor differences, (2) musculoskeletal disabilities, and (3) degenerative disorders. Children with physical disabilities often need the services of physical therapists, occupational therapists, speech-language pathologists, or other support personnel. Children with physical disabilities should receive services that are evidence based, including appropriate assessment, child-focused instruction, family-based services, and interdisciplinary or transdisciplinary teaming and collaboration. Young children with orthopedic impairments may need assistive technology and special equipment for seating and positioning as well as special devices to participate in classroom activities and feed themselves. Adapted clothing may be used for dressing needs, while other equipment may be needed for lifting, carrying, and transitional experiences. Adaptations often are necessary for mobility in home, school, and community settings. Other special considerations often are necessary for optimal early intervention and early childhood education experiences.

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See also Accommodations and Adaptations; Atypical Development; Early Childhood Special Education; Early Intervention

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PHYSICAL EDUCATION

From a historical perspective, educational theorists in early childhood and physical education typically ignored the need for instruction aimed at young children's physical development. There was a general belief that the physical needs of children from birth through 4 years could be satisfied in the home setting or later when the child entered elementary school. It was not until the early 1960s in the United States, when leaders in the field of physical education began seeking new instructional content for the kindergarten through Grade 2 programs, that educators began to fully realize the young child's movement potential. Their search in Europe for age-appropriate content led them to the works of an Austro-Hungary-born movement theorist named Rudolph Laban (1879–1958). Laban's focus on analyzing basic movement skills had been acknowledged worldwide in the areas of dance, theater, mime, gymnastics, and fencing. When his theories were first introduced in the 1960s in the United States, a program was developed emphasizing four major movement concepts. These four concepts gained great attention from physical education teachers and have since served as the foundation for movement education for elementary-school-age children. Later, in the 1980s, the same four concepts became the foundation of early childhood physical education in public school settings and in many early childhood centers.

Of the four concepts, body awareness is the most frequently implemented with preschool children. Body awareness activities ask the child to identify the names and locations of various body parts and to physically explore the movement possibilities of those extremities. Participating in these activities helps young children develop a more realistic conception of their body's capabilities as they learn that particular body parts are responsible for specific large and fine motor movements. Common activities include asking the child to use different body parts to imitate the expressive feelings and actions of characters in fictional movement narratives, or to challenge the

child to use his or her imagination and perform the actions of familiar objects or things that move, or to create familiar alphabet letters or numerical numbers by bending or stretching in order to form lines and half circles with his or her body.

Body awareness activities also teach the child to demonstrate shapes that the body can make such as a twisted, bridge, tunnel, flat, wide, tall, crooked, and round shape. These shapes occur in many sport activities for adolescents and adults. However, the greatest benefit of teaching body awareness activities to young children is to expand their understanding and performance of a large variety of different movements. Many physical education teachers refer to this focus as the young child's movement vocabulary. Although the list is fairly expansive, numbering more than 60 specific movements, the most typical locomotor movements in preschool physical education lessons focus on teaching the correct mechanics of walking, running, jumping, hopping, and skipping. The most common nonlocomotor movements that benefit the child's healthy development but do not require movement throughout the instructional area include twisting, turning, swaying, bending, and stretching.

Children acquire the concept of spatial awareness as they begin to understand how much space the body requires to move successfully throughout the playing area. Age-appropriate obstacle courses enhance the child's understanding of spatial awareness when children are challenged to remain in a compact shape while moving through obstacles of different heights and widths. These obstacles include child-size tunnels, recycled car tires to balance on or move around, geometric shapes, and cardboard boxes large enough to crawl through. This activity can also offer the child different imaginary pathways or routes to follow along such as a zigzag, curved, straight, or diagonal path. Children can also move on different horizontal planes such as high, medium, or low levels, and can explore moving over different types of surfaces such as gymnastic mats and floor rugs of different textures. In spatial awareness lessons, the area within a child's immediate reach is introduced as being his or her personal space, and all areas beyond the child's arm extension are referred to as general space.

The third movement concept requires teachers to plan lessons aimed at showing the child how the body can move according to time, force, and flow. Time is the child's ability to move the whole or parts of the body quickly or slowly. This element of the concept is associated with speed such as quick or slow, sudden, or sustained movement. The next element enhances the young child's ability to utilize different degrees of muscle tension and strength for more efficient movement. Laban referred to this as effort, but the term *force* is commonly used in the United States. This element is associated with the child demonstrating heavy or light, harsh or gentle, strong or weak, and hard or soft movements. The final element, known to be critical for effective coordination and sport skills in the older grades, is called flow and challenges children to link movements sequentially. Chase and flee activities that help the child to discover how to move quickly, stop quickly, and perform a mature balance shape address the concept of flow. One example includes asking the child to stomp like a heavy elephant, jump quickly like a powerful kangaroo, gallop forcefully like a giraffe, and then freeze the body's muscles suddenly as if hiding from a make-believe lion.

The fourth movement concept, known as relationships, teaches the young child how to move in relation to other classmates by interacting with a partner, small group, or whole class. A few sample relationships include interacting with another preschool child by either following, leading, meeting, parting, passing, or simply copying and mirroring their peer's actions. Children can also use their bodies and a partner's body to show taller than, shorter than, less than, or greater than. Small group activities can be used to teach the elements of behind/in front, between, among, alongside, over/under, near/far, and along/through. This concept serves as a foundation for young children moving in the presence of others. Sample activities include exploring a variety of twisted shapes such as pretending to be a pretzel by rotating specific body parts around a classmate's body, or interacting cooperatively within a small group to explore three different ways to move like a make-believe

train, or working collectively and using other children's bodies to create large group shapes resembling a bridge, a house, a school bus, or a rocket shape.

One additional element of relationships is to utilize a variety of lightweight equipment, such as bean bags, air-inflated balls, wooden blocks, sheets of newspaper, plastic hoops, and child-size floor mats, and challenge children to position their bodies in relation to the objects according to above, below, over, under, near, far in front of, behind, to the side, around, and between objects. Sample relationship activities can also focus on manipulative skills such as keeping a balloon afloat in the air using different body parts or performing the motor skill mechanics involved with rolling, fielding, or kicking a ball.

In 1995, the premises of quality movement programs for young children were reinforced in a position statement written by experts from the National Association for Sport and Physical Education. The document was titled *Appropriate Practices in Movement Programs for Children Ages 3–5*, and it has undergone additional expansions and editions. The appropriate practices are highly circulated and the document remains a highly used resource.

Guidelines for Physical Activity

While the emphasis on movement concepts has continued in preschool physical education, the need for additional physical activity for children ages birth to 5 years had gained significant attention by the year 2000. In 2002, a step was taken by physical education's national association to create a document titled *Active Start: A Statement of Physical Activity Guidelines for Children Birth to Five Years*. These first-ever guidelines defined *physical activity* for young children as any bodily movement produced by skeletal muscles that results in energy expenditure. According to the document, the term *physical fitness* implies that a child is in a state of well-being and can meet the daily physical challenges that are appropriate to his or her stage of development. Again, movement

activities were recommended as a way to increase the child's overall body strength, bone density, and cardiovascular system.

This additional emphasis on physical activity introduced two specific types of physical activity for early childhood. The first term is *vigorous physical activity*. Vigorous physical activity is performed at an intensity so that children's breathing and heart rate are elevated. Sample activities for this age level include chase and flee games or dancing and moving about to lively music. Obviously young children do become fatigued sooner than elementary school children since their bodies are still physically developing. However, even short bursts of vigorous physical activity are beneficial to the child since they can spark the growth and development of the fundamental nervous centers in preschool children's brains. Sample activities of this nature include short footraces, jumping upward and transferring the whole body's weight into the air, and darting and dashing in imaginary plots that involve fleeing.

Moderate physical activity is more gradual and can be sustained for a longer period of time. Examples of moderate physical activity include stretching groups of muscles to imitate the life cycle of a tree, or by using their bodies to move like objects starting with a specific alphabet letter. Through moderate physical activities children explore novel ways to move, practice new motor skills, and learn to solve simple movement challenges. They also explore the movement associated with adult roles and work out their feelings through dramatic play such as the movements of a firefighter or farmer. Most preschool physical education lessons are based on a series of moderate activities, but also contain at least one to two vigorous activities depending on the amount of space in which the child can move freely.

The 2002 guidelines also discuss two key concepts for physical education teachers, caregivers, and parents. The first is *structured physical activity* that assumes the adult in charge of children will plan lessons containing activities that match infants', toddlers', or preschool children's developmental levels. The second term, *unstructured*

physical activity, is defined as "child-initiated physical activity that occurs as the child explores his or her environment" (p. 18). The concept implies that physical education teachers can serve as facilitators for the child's physical activity and exploration in the schoolyard or on playground apparatus that can offer a myriad of opportunities for climbing, stretching, and reaching. Playground structures not only enhance muscle growth, but also increase development of the heart, lungs, and other vital organs needed for optimal physical development.

An expanded second edition of the guidelines was published in 2009 with additional suggested activities. Greater attention was also given to health-related fitness in this document for children from birth through age 5 due to increasing evidence of childhood obesity beginning in the early years. This document again advocated for preschool children accumulating at least 60 minutes of structured physical activity, and engaging in at least 60 minutes and up to several hours of unstructured physical activity each day.

101 Tips for Physical Activity

In 2010, the national association for physical education published a booklet directly aimed at advocating preschool physical activity. The booklet was entitled *101 Tips for Increasing Physical Activity in Early Childhood*. In addition to the 101 tips to help teachers and caregivers plan physical education lessons and physical activity experiences, the document emphasized developmentally appropriate movement opportunities, maximizing the environment for learning, being creative with equipment, making safety a priority, and using techniques to enhance the child's social skills. It also emphasized providing instruction during structured play, integrating physical activity into the overall curriculum, and the need for teachers to be reflective, flexible, and willing to assist parents and families with information and resources. This easy-to-follow document is especially useful for new physical education teachers and caregivers, and it continues to stress the need for age-appropriate and purposeful

movement and physical activity experiences for our nation's preschool population.

Rhonda Clements

See also Healthy Choices and Young Children;
Movement Education; Obesity Prevention; Outdoor
Play Spaces

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PLANNING

Early childhood education (ECE) planning for teaching young children is a process that outlines ways of transmitting concepts and community values to children, sequencing learning experiences, and evaluating how effectively children receive this knowledge. Whether children's education includes schooling (formalized instruction), learning generated by children's life experiences, or knowledge and skill acquisition from both, the result enables children to become increasingly aware of themselves as learners and citizens in their world. A plan drafts the what, how, and when of learning. It is essential to achieving the goals of early childhood education. This entry outlines the history and importance of planning in ECE and further explores ECE planning in relation to several key educational theories on learning and curriculum

development (e.g., Ralph W. Tyler and Jerome S. Bruner's theories). It describes how ECE planning intersects with backward design, which influences related curricular approaches, and outlines how contextual factors impact major elements and principles of ECE planning.

Importance of Early Childhood Education Planning

ECE planning is important because it defines and describes curriculum and program expectations for young children's care and education. It makes teaching and learning intentional and transparent to the practitioner (teacher or caregiver), the learner, and others (managers, administrators, or a child's family members). The plans, along with the planning process, reflect the ideals inherent in the values of a community, such as the people within a community of child care programs, a school system, or a neighborhood homeschooling group. Similarly, the scope and sequence of concepts and skills to be learned by children, and prioritized according to developmental readiness, establishes what information is important to teach and learn. In general, a plan states goals, objectives, and desired outcomes—the learning and developmental expectations projected for each child. A plan lists supplies and materials as it describes strategies and procedures for implementation. Additionally, it states the boundaries of learning environments, such as the space, time, and setup. These details are critical to plan implementation and the likelihood for children's optimal learning. Finally, a plan assigns markers of success, which show the qualitative (nature of) and quantitative (magnitude of) measures of learning and development. Planning, whether for an individual child, a group of children, a program, or a school, is always drafted with the distinctive developmental needs of children as its foundation.

Historical Roots of Early Childhood Education Planning

The history of early childhood education planning begins with those who have had the responsibility

to care for and teach children on a daily basis. Both the parent/guardian, as the child's first teacher, and the professional caregiver and teacher, share the trust for a child's schooling and education. Today, teacher preparation programs embrace their part in this responsibility. In 2009, the most distinguished organization for guiding and accrediting both child care programs and early childhood education professional preparation programs, the National Association for the Education of Young Children (NAEYC) published a revised position statement titled, *NAEYC Standards for Early Childhood Professional Preparation Programs*. Of six preparation standards, *Standard 5, Using Content Knowledge to Build Meaningful Curriculum*, describes the expectation for teacher candidates to be able to plan appropriate and responsive curricula. It states that prepared candidates use their knowledge of child development and appropriate learning standards "to design, implement, and evaluate meaningful, challenging curriculum for each child." Further, the statement suggests that the large majority of teacher preparation programs rely on NAEYC standards for program preparation guidance. This may account for nearly all state departments of education's teacher candidate test's adherence to similar standards. For example, in cooperation with the Evaluation Systems group of Pearson, a test development division of Pearson publishing, states developed teacher exams that require teacher candidates to understand the principles of planning and delivering instruction that are grounded in knowledge of child development, motivation, alignment to standards, and providing adaptations for diverse learners. Further, this expectation and other professional criteria are codified in state educator rules.

Two distinguished scholars, Ralph W. Tyler and his successor, Jerome S. Bruner, have made important contributions to educational process and curricular planning. Their ideas resonate in early childhood education standards, research, practice, and planning tools. Tyler was an American educator whose contributions, in the late 1940s, include the ideas that schools and curricula should define educational purposes and useful learning experiences

that are layered to deepen understanding and sequenced to achieve goals. To determine success in student learning (or changes in understanding), he proposed a recursive, correcting process where areas that showed ineffective learning could be revised to improve outcomes. In the next 50 plus years, thinking about the best way to educate children changed. The enterprise of planning stretched beyond schoolrooms. Teachers, schools, and communities now partnered in planning. The diversity of children's languages, special needs, family cultures, and neighborhoods became important considerations. Accordingly, the nature of planning blossomed to include planning transitions and learning transformations for children. In 1960, Bruner, an American psychologist and educator, published *The Process of Education*. While recognizing the perpetual curiosity of children, he highlights the idea that learning is like a spiral, where reexamining concepts renders them increasingly understandable. He coined the phrase *spiral curriculum*, which labels this notion. His ideas grew from substantial research on how children think and learn, independently and with the help of others, to expand their knowledge base. Bruner's ideas suggest that a child learns continuously and can learn nearly anything, provided instruction is sensibly planned according to learner readiness, which is based on interest and past learning. Today, Tyler and Bruner's ideas are blended in the prevailing belief that the first step of planning is to identify the plan's ending results.

Backward Design in Early Childhood Education Planning

Writers such as Tyler, Stephen Covey, Grant Wiggins, and Jay McTighe emphasize that thinking with the end in mind is the heart of planning in *backward design*. Wiggins and McTighe, in their book, *Understanding by Design*, describe the three stages of this planning process as

1. identifying desired results,
2. determining acceptable evidence, and
3. planning learning activities.

In Stage 1, *desired results* include the goals for what children should know and be able to do in the context of state, accreditation, and curriculum standards. In Stage 2, *acceptable evidence* includes information obtained from observing and recording learner actions that shows recognition and evaluation of understanding. Both formative (along the way) and summative (at the end) assessments of demonstrated competencies or skills are acceptable evidence. In Stage 3, *learning activities* include experiences within and between the parts of the activity, with attention to the developmental and learning readiness of learners to achieve the goals of Stage 1. Like applying any plan model to a goal, it is important to note that backward design first leads the planner through a thinking process, then through a writing or recording process. The final plan, whether finalized on paper or electronically, may or may not be formatted to mirror the stages of the thinking process. Typically, ECE activity or lesson plans, for example, are recorded in a deductive (top-down) format, and, likewise, communicated to children and others in straight-line fashion. The inductive logic of backward design captures the intuitive or developmentally driven thinking of planners (adults or children with adults), making it a popular model for planning short- or long-term learning adventures.

Designers and Recipients of Early Childhood Education Planning

The designers of plans for early childhood education learning may include educational administrators of schools or programs, teachers, or teams of practitioners and parents/guardians who differentiate learning experiences for diverse learners. Additionally, designers include writers of published curricula that promote research-based approaches to education, such as the project approach, Creative Curriculum, Montessori, HighScope, or Bank Street. Whether purchased or practitioner-designed, planning for young children's learning is often characterized by the degree to which it is teacher-directed or child-directed, thematic, exploratory, emergent, or a

hybrid of one or more models. Because inductive thinking generates and drives planning, it is important to consider children, the learners themselves, as contributors to the planning process. Emergent learning or emergent curriculum is a process whereby children's interests pose the topics through which learning will occur. In this regard, children inspire the planning while the teacher retains responsibility for facilitating and assessing the learning, even when assessment is carried out in partnership with children. The recipients of the planning process include the child learner, the parents/guardians, the caregivers/teachers, and the program or school community. All expect that early childhood education planning will support linguistic, economic, and even political cultures that surround their involvement in educating young children.

Contextual Factors of Early Childhood Education Planning

Contextual factors influence ECE planning by framing the purpose of plans. Some universal factors include time, the economy, or political circumstances surrounding education. More specifically, a child's developmental status, how children are grouped for learning, program licensure requirements, program and school accreditation standards, and physical setting characteristics affect the direction and breadth of planning. Additionally, the social aspects of the child's world, such as language, family lifestyle, and community culture, are contextual factors that amplify the relevancy of ECE planning. Finally, a caregiver or teacher's education, training, and creativity inform the planning process. While some factors may be disruptive to planning or plans, like staffing changes, temporary lack of resources, or emergencies, planning flexibility can lessen negative effects or inspire solutions to problems. In varying degrees, then, contextual factors affect form, function, and recipients of plans. Contextual factors are complementary and contribute both distinctiveness and depth to responsive plans that meet the needs of children and programs alike.

Elements and Principles of Early Childhood Education Planning

In order to tame influences on planning, early childhood education practitioners follow a set of steps that makes their intentions visible and enables them to prioritize their thinking. This process leads to ordered actions, and intended outcomes—the best of plans. If the plans result in unintended outcomes, the practitioner uses these surprises to fine-tune plans. In ECE, the initial planning process and subsequent replanning reduce the chance for unexpected results. The planning process includes five basic elements and three common principles, some of which may be condensed or elaborated according to who uses the plan—children, practitioners, family members, or policy makers. ECE planning elements include determination of the following:

1. goals—a broad statement of what is to be accomplished;
2. rationale and preconditions—the basis for teaching, including what the child knows and is able to do, developmental milestones and learning progress, and features of the educational setting;
3. method/procedures—sequence of engagement steps with supplies/materials and people;
4. outcomes—the expected knowledge and skill acquisition (linked to children’s physical, social-emotional, and cognitive development); and
5. evaluation—an experience or competency appraisal that reveals progress and next steps for achievement.

The planning principles, embedded in the planning process, include the following:

- attention to children’s unique developmental characteristics shaped by age, disabilities or special learning needs, and family culture;
- alignment of plans with state and/or accreditation education standards and ethical practice; and

- appropriate use of a planning device to set priorities, such as a web or learning map, a timeline/calendar of learning activities, or a table or a list of learning experiences.

Applying Elements and Principles of Early Childhood Education Planning

The planning process relies on a logical flow of events that supports the well-being of each child. Practitioners spend time learning about children’s educational and developmental history, families, and communities in order to set reasonable expectations for children’s learning. Goals and rationale are adjusted to accommodate children’s linguistic, developmental, or special needs according to the education standards of the setting. If the needs meet the criteria of the Americans with Disabilities Act and the child is under 3 years, an individualized family service plan (IFSP) will be developed. For an older child, an individualized education program (IEP) would be adopted. Correspondingly, the elements of indoor and outdoor learning environments pose time, space, and condition parameters that control the timing, methods, and materials of instruction. As part of the planning process and during implementation of plans, practitioners may blend procedures and setting features in unique ways to achieve extensions to learning. Procedures used indoors might be suitably extended to the outdoors (painting or storytelling, for example), while running games or nature walks are only *virtually* possible indoors with technology. All outcomes present opportunities to keep track of mistakes and successes. When the logical flow of the plan is compared with outcomes, a loop is closed and lessons learned inspire new goals, affirming children’s capabilities and competencies.

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See also Bank Street; Creative Curriculum, The; Curriculum and Early Childhood Education; Intentional Teaching; Montessori Programs and Environments; Project Approach; Standards-Based Curriculum and Assessment

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PLAY, BENEFITS OF

Play is visible in various actions, expressions, movements, and ideas of individuals and groups. It is more clearly recognized and labeled than it is defined. While it is difficult to pinpoint the exact meaning of play, it is possible to examine the benefits of play in early childhood education, growth, and development.

From birth, children are actively exploring their world. They utilize their senses to form an understanding of people, places, and things with which they come into contact. This active engagement provides avenues for learning that help to expand the development of the child. Through play, a child's development is positively impacted in all domains: cognitive, physical, social, and emotional.

Play Benefits and Young Children

Play and playful behavior have positive effects on the development of the brain and the child's ability to learn and develop. According to Sigmund Freud and Erik Erikson, play helps children master anxieties and learn to resolve conflicts. Tension is relieved in play and children can cope with life issues. Jean Piaget and Lev Vygotsky viewed play as a medium to advance cognitive and social

development. Through play, children practice competencies and skills in a relaxed format. Imagination and creativity are advanced through symbolic and make-believe play.

Play helps to satisfy the exploratory nature in each human being. Through play, children can safely explore and seek out new information. Play also helps children explore gender roles and organizations in society. Social skills and friendships are developed during play. Functioning as a crucial skill in the lives of children, play helps them as they learn and grow cognitively, physically, socially, and emotionally. It is a primal ability that all children have from birth and all children use to investigate and make sense of the pieces of life that occur each day.

Children naturally explore through playlike formats. They use their senses to discover and form understandings of the people, places, and things around them. Play serves as an engagement tool and an avenue for learning. Through the inborn mechanism of play, children expand their knowledge and understanding in all developmental domains. Their curiosity and imagination tie with social information and facts. Equally important, play is a common ground for all children across cultures. Play serves every economic class, ability, and learning style.

Play and Cognitive Benefits

Play provides a setting in which children are able to actively explore their world. In relation to cognitive development, the benefits of this exploration are clear. Play provides the meaningful context through which children are able to practice and make sense of new concepts and by which they construct new understandings and knowledge.

In exploratory play, children repeat a newly acquired skill to reaffirm their ability to complete the task. They will repetitively put the block through the correct hole or pour the water out of the cup. This is a simple task that is replicated for the joyful experience of individual success. This type of play continues in importance throughout development as even adults will repeat a pleasurable experience

because it makes them feel good and successful. As adults, people find ways to experience and repeat aspects of life that bring them joy. It is this type of playful action that brings peace and relaxation to a busy schedule. This is crucial to cognitive development over the life span.

Exploration of objects is different than exploratory play. Through exploration, children discover properties of tools or items. This gives them a way to make sense of how things work and what things do in the world. The goal is to figure out something through the exploration of play. This leads to cognitive development and understanding of the physical world. By having firsthand experiences with real objects, children will form concepts that are more meaningful and easily remembered.

Through constructive play, children use objects or resources to represent something different than the actual object. This may also be referred to as representational play. Children use blocks to represent a road or a train track. They may take a block into the dramatic play area to represent a salt shaker on the table. This type of play becomes more complex as children develop.

Constructive play leads into dramatic play, during which children create imaginary situations and take on various roles. Representational play is part of the dramatic play as items are used as symbols of objects in the play episodes. The mental transformation of objects is the beginning of literacy and numeracy development. As children begin to engage in such play, they also begin to understand abstractions. Dramatic play promotes abstract thinking, which is the basis of literacy and math development.

In sociodramatic play, children can develop written play plans as well as determine the theme, settings, roles, and rules of the dramatic play period, as discussed by Elena Bodrova and Deborah J. Leong in their 2007 book, *Tools of the Mind*. Children who are involved in this type of play have been shown to score higher on literacy skills than children who are not in classrooms of these types. Children who engage in pretend play have higher school readiness scores. Play promotes risk taking, allowing children to go beyond their capabilities

without the fear of being judged or worrying about the consequences. Children must take risks to learn, and through play, children easily take those risks.

Young children work hard at play. They invent situations, solve problems, and negotiate roles. In play, children are highly motivated and fully engaged. In sociodramatic play situations, children are found to have greater language skills and social skills. They are also able to show more imagination than nonplayers. It is evident that there are connections between play and foundational capabilities. These are found in the development of memory, oral language abilities, and success in school. It is crucial to value and encourage the self-directed activities of young children and scaffold imaginative play in early childhood experiences so children develop the continued advanced play that contributes significantly toward cognitive development.

The benefits of play for cognitive development have been shown by play researchers. As children practice newly acquired skills, they gain confidence and form a sense of self-competence. Children require firsthand experiences with objects to explore them and understand their properties. Through play, children take risks and move toward increased cognitive development. Play is crucial to school readiness and continued school success.

Play and Physical Development

Play provides a physical release and helps children form friendship bonds and cooperative prosocial behaviors and attitudes. Outdoor free time with peers facilitates friendships and helps promote quality social skills that carry through to the learning environment. Young children must have the release time of physical play in order to release stress, balance mental connections, practice physical skills, and form social connections.

The value of play connects to children's health. Play allows children time to practice and develop fine and gross motor skills. Physical activity promotes early brain development and learning and decreases the risk of health conditions such as hypertension, obesity, heart disease, and diabetes.

Play provides various benefits to the overall health and well-being of children.

Brain development is impacted through play. Connections of the prefrontal cortex are changed through play experiences and help wire the brain's executive control center. This performs a critical role in cognitive development. Through play, children are developing rules and negotiating while the brain builds new circuits to help navigate the complex social contexts. Research also shows that when children are provided unstructured brain breaks during learning, they make positive gains in their ability to attend to and retain more information. To illustrate the need for play, research shows that the brain breaks must be unstructured free play, without direction from adults.

Over the past few decades, the increase of childhood obesity has been well documented. As this epidemic has been on the rise, there also has been a decline in physical and outdoor play by children. Young children spend less time in unstructured and unscheduled physical outdoor playtime than they once did. In today's technological and media-based society, young children often spend their "play" time sitting still at a screen playing games. Unstructured play provides physical activity time that children need to grow and develop healthy bodies.

Play and Socioemotional Development

According to some qualitative research, instances of aggression in young children are on the increase. Schools struggle with children's social behavior and lack of ability to control emotions. Children spend less time on the playground chasing each other in simple games of physical release or testing their strength and abilities on climbing equipment. Recess and unstructured free time with peers has been reduced or removed from the daily schedule in schools but aggression and social skill issues have increased.

Through play, children are able to work out the rules for social interaction and to determine how to be at their best in each unique situation. Play is the vehicle for building social competence in early

childhood and allows young children to practice and gain confidence in their social skills with peers.

Play is crucial to the development of self-regulation and the ability to manage emotions. Through play, children are able to practice these skills. Children adopt the roles and perspectives of others in play and begin to internalize the rules of social behavior. Through make-believe play, young children act as the "parent" or "teacher" and practice reactions and emotions of situations. They use play as a means of working through the emotions they experienced in circumstances with others. Play helps children cope with change and new experiences in a context that allows them to make sense of the situation in their own way. Play is a way to reduce stress and anxiety for children.

Play allows children to learn to be part of a group. Through play, they develop the social skills of negotiation, collaboration, problem solving, and sharing. Children develop friendships and social connections during play while practicing basic social skills and developing a sense of self. It is through play that children develop their social competence and emotional security.

Emotional development is impacted through play as it provides an avenue for children to express and cope with feelings. Pretend play allows children to simplify events to match their emotional state and make sense of the situations that they face. Children also learn to control emotional expressions by repeating events through pretend play that are unpleasant in real life. Play allows children to cope with feelings by acting them out in playful episodes.

Play is the natural inborn mechanism through which children explore and gain meaningful understanding of their world. It is through play that children learn and advance in all developmental domains: cognitive, physical, social, and emotional. The active engagement of play provides children the means to learn and grow naturally and with their own unique motivation and direction. While each child may have varying interests in play, the values and benefits of the acts of play are the same as they work toward the development of the healthy child.

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See also Peers and Play; Play and Early Childhood Education; Play and Early Writing; Social Play and Cognitive Development; Sociodramatic Play and Sara Smilansky

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play and adult roles in the play of young children. Alternative positions, such as “trust in play,” “learn and teach through certain forms of play,” and “keep play out of the curriculum” can and do influence how teachers use provisions and their expertise to influence play.

Underlying philosophies and conceptual schemes impact common curricular features of ECE programs such as the availability of materials, organization of space, and daily schedule, as they likewise influence teachers' decisions regarding whether or how to borrow from comprehensive curriculum models such as HighScope (e.g., plan, do, review cycle) or from well-known specific play intervention strategies or techniques (e.g., sociodramatic play). Adults' beliefs and values about play, learning, and development that are embedded within these guiding orientations are contributors to teacher decisions and actions leading to proportions of child-initiated, teacher-facilitated, and teacher-directed play witnessed within ECE programs.

An extreme and rarely seen position on play and the ECE curriculum is *segregationist* in which no attempt is made to use play for classroom learning; only recreational play is allowed at recess or break times. The *juxtaposition* model pairs playtimes with instructional times with some thematic connection made between the two, such as equipping play centers with props or content in line with ideas taught during formal lessons. The *integration* model seeks teachable moments during child-initiated play to guide learning and exploration and represents a blending of play and learning.

Two additional schemes adhere to the acceptance of play within the ECE curriculum seen within the juxtaposition and integration models: curriculum-generated play and play-generated curriculum (Van Hoorn, Nourrot, Scales, & Alward, 2011). With the first curriculum-generated play scheme, the teacher provides opportunities for play in accord with curricular goals. The curriculum objectives are the drivers, and children's play is subordinated or following from them. For example, a teacher may set up a numeracy-enriched store in the dramatic play center to consolidate

PLAY, CURRICULUM, AND PEDAGOGY

Different schemes illuminate how ECE programs can use teaching with play and learning during the early years. Those teaching children are divided over whether play has educational value, and if so, what kind of play has value—with these differences reflecting educational philosophies about

number and space concepts that were formally presented in a lesson at another time of the day or week. This scheme or model affords individualized teaching in contrast to whole-class teaching. Additional instruction is given only to children who still need to learn the skills following play experiences. Academically enriched play centers, games, and simulations are used in this model. Their employment is determined by the overriding aims of curriculum.

The play-generated curriculum model contrasts with curriculum-generated play. Play by children is used to build learning goals. In this model, play comes first and curriculum follows. Still, within child-initiated play, with or without teacher scaffolding, students can and do learn or practice concepts and skills relating to academic content areas, such as science and social studies (via *curricular networking*). Children are engaging in a series of events that are not set up in advance but are flowing out of their playing and learning experiences. What they learn in play is spontaneous and unplanned in a sense. However, teachers can deliberately plant valuable learning embedded within or following the play episodes. Here play is the source of the curriculum or is the curriculum and shapes the learning experiences.

Pedagogy of play or play pedagogy within ECE is teaching and learning using play as the medium or context of these important instructional and communication processes. It is expressed in curriculum configurations, marked by coconstruction by teachers and children, and in the use of child-initiated play together with teacher-guided or facilitated play. Teacher support and scaffolding of play occur through the exercise of various teacher's roles in play, such as carefully observing play in order to effectively stage manage before and during play, help in play negotiations, mediating peer conflicts, making suggestions for children to sustain or elaborate their play, scripting their play for later teaching, and the like.

Rationale

Many scholars (see Johnson, 2014) and advocacy groups such as the Alliance for Childhood assert

that play pedagogy is critical to the success of ECE's current quest to escape from overly teacher-directed academic models of the ECE curriculum and from curricula that are too loosely structured, prone to cater to child wants and interests without learning value for the young child. This move toward balance positions ECE to construct play-based curricula as avenues for fostering young children's intellectual development, self-regulation, prosocial tendencies, and social competence in ways that do not neglect important areas of children's lives, such as their physical and emotional well-being, imagination, and creative expression.

Play pedagogy is instantiated in teaching practice in many diverse ways but always includes balancing the teacher's and child's agenda, serving the cognitive and emotional needs of children. Ingrid Pramling Samuelsson uses the term *playing-learning child*. Teachers seek to use arrangements and social opportunities in ECE settings that bring to the fore playful components in learning and learning components in play.

Play pedagogy encompasses playful classrooms with focused learning as well as classrooms rich in child-initiated play. The goal is to avoid didactic, highly structured classrooms in ECE and ones that have play but low-quality play because the teachers are not actively involved in enhancing play. Teachers can accent learning with play by using the juxtaposition model or can foster it by blending it with learning using the curriculum integration model discussed earlier, either with curriculum-generated play or play-generated curriculum. Play pedagogy also includes methods that are more teacher directed.

Examples

Teacher-directed play methods are embedded within an existing classroom in order to enhance playing and learning experiences. They are different from teacher-facilitated play in that they instigate structured play and are not just responding to child-initiated play. Many are teacher directed in the setup of provisions and teacher facilitative interventions once the children begin to play.

Contingency play teaching prevails in that as children manifest more play prowess the teachers back off and let the children play more independently. Several well-known varieties of play pedagogies are briefly described.

Sociodramatic Play

Sara Smilansky pioneered *sociodramatic* play (SDP) training targeting young children with play deficits. Adults intervene with book reading and they should also do so with play props and ideas. SDP is a developmentally appropriate way to prepare low-income preschoolers for formal schooling through its demands for symbolic and abstract thinking. SDP is verbal make-believe play in a group, lasting at least 10 minutes. Students take on make-believe roles in another time and place while employing real, substitute, or invented play props. Teachers familiarize children with the topics of their scripts and roles by taking children on field trips, bringing in guest speakers, reading books, or having class discussions. Teachers observe the children playing to decide which children need help to exhibit the qualities of SDP. The teachers foster SDP through modeling, making helpful comments, questioning and coplaying, gradually reducing their support as children increase their ability to perform SDP independently.

Thematic-Fantasy Play

Thematic-fantasy play (TFP) was first employed by Eli Saltz and James Johnson and is similar to SDP, but the content is not life events but fairy tales such as *The Three Bears* or *The Three Little Pigs*. Teachers read and discuss the stories with the children, simplify the plots as needed, and set up a space for enactment with suitable props on hand. Teachers assign roles, take on a role, and serve as the play director.

Playworlds

A famous play pedagogy from the Nordic states is Playworlds, researched by Pentti Hakkarainen and others. In Playworlds, children are led by their teachers during group dramatizations of fictional events inspired by classical children's literature and

fantasy history, such as playing knights, castles, and dragons. Academic school subjects are connected to the play as young students follow projects and investigations related to the geography and history of themes, studying maps and employing mathematics, science, and reasoning skills while building cognitive and narrative intelligences.

Literacy-Enhanced Play

Similar to SDP and TFP, but adding an emphasis on literacy, *literacy-enhanced* play pedagogy implements centers equipped with extensive materials for pretend writing and reading, such as pens and markers, paper, notepads, books, and magazines. Environmental print, such as travel posters or advertising, is displayed. Teachers are active in displaying and encouraging the functional use of print within play enactments, such as using the menu or writing down an order for lunch at a pretend restaurant.

Storytelling and Story Acting

Another play pedagogy targeting literacy, narrative competence, and community building is Vivian Paley's *storytelling and story acting* methods in which the teacher-as-scribe, at a story table set up during free play, records child-authored stories that are later enacted on a classroom "stage."

Improvisational Methods

Improvisational methods recommended by Carrie Lobman and others assume a performance stance toward human development rooted in Vygotskian theory of creativity, symbolic play, speech, and language. Improvisation play pedagogy requires an openness to others and affirmation of others through saying *yes* to their social bids in a way that is also satisfying one's own individual interests and needs for agency and creative expression. Spontaneous play undertaken by teachers and children follows spur-of-the-moment feelings and thoughts and not prescribed content or plans. The use of improvisational play pedagogy can build positive teacher-child and child-child relationships in inclusive classrooms.

Group Games

Group games contrasts with the other pedagogies in its focus on constructive and game play. Constance Kamii and Rheta DeVries, influenced by Piagetian theories, recommended traditional games in the ECE classroom as a way to support children in learning rules and taking the perspectives of their peers and the teacher. The role of the teacher includes guiding children in their thinking and conflict resolution by asking thought-provoking questions. The aim here again is to assist the play process itself as well as the learning benefits associated with the play.

Issues

Use of play pedagogy models and interventions can imply play and learning deficits. This relates to the so-called gap versus DAP debate, or how to have developmentally appropriate practices (DAP) and also reduce the achievement gap and school-readiness issues that exist between children from families with higher and lower social and material capital. Some children seem to require more program structure and teacher direction than do other children from more privileged backgrounds who can enjoy more open framework curricular opportunities for genuinely enriching play. A social justice issue looms when a disproportionate number of low-income children find themselves in classrooms with more structured play opportunities only, or worse yet little or no play because teacher-scripted and led instruction and testing and practice for test taking have elbowed play out of the ECE classroom.

Recently, a learner-inclusive play pedagogy has been recommended. David Elkind distinguished between the teacher's functional perspective and the child's experiential perspective on play in the ECE curriculum. Coconstructed inclusive play pedagogy brings both into the picture. Coconstruction of play pedagogy sees the teachers and children interacting together and the relation of playing and learning as occurring on two levels—the teacher level and the child level. The interplay of play and learning is a figure-and-ground problem in a learn-

ing encounter in the classroom, involving the teacher (learning goals and curricular objectives) and children (playing and doing).

Ideologies and policies can stand in the way of teachers actualizing their intentions and understandings of pedagogies of play (Wood, 2014). Elizabeth Wood warns about “eduplay” and the “technicist” vulgarization of play pedagogy that reduce it to an expression of a “teaching to the test” mentality in which play becomes pseudoplay and is set up to happen primarily to serve the teacher's need to check off that an early learning standard objective has been met for the day. Such preordained fraudulent play must be eschewed in implementing and seeking the promises of play pedagogy as a contemporary curricular movement in ECE.

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See also Sociodramatic Play and Sara Smilansky; Storytelling and Story Acting

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PLAY, DEFINITION OF

Play is a jumbo category, a big umbrella term. Since so many different actions, expressions, movements, and thoughts are called play, a singular definition of the construct is not possible. Play is easier to describe or to indicate by example. Any definition of play is not true or false but useful or not useful for a given situation or purpose, such as found in a specific research study or early childhood program.

A popular approach in early childhood education (ECE) research, policy making, and practice is to characterize play as mental or physical activity that possesses certain attributes. Many scholars have pointed out that in ECE an overt action or expression is more likely to be called play if the expression meets the additive criteria of possessing accumulating attributes commonly accepted as reflecting play qualities. These include the following: playful thoughts and playful activities are (a) accompanied by positive affect, (b) freely chosen, (c) under the primary control of the young child, (d) are motivated by the play itself, (e) ones for which the meaning is primarily determined by the young child, (f) nonliteral and dynamic, (g) in need of relaxed circumstances or a less stressed mental frame, and (h) reciprocally related; that is, play actions and play thoughts build on one another.

How ECE defines play has been informed by philosophy and the scientific study of play. For example, Roger Callios in *Man, Play and Games* (1961/1958) identifies vertigo, competition, mimicry, and chance; he discusses these play forms and their combinations along a continuum from freer (*paidia*) to more controlled (*ludus*) play. Play is uncertain, rule bound, fictive, unproductive, free, and separated from reality. Johan Huizinga's *Homo Ludens* describes play activity as voluntary, not serious but very absorbing, without material gain, rule bound, conducive to social belongingness, and framed from reality.

Philosophical views now also incorporate seeing the postmodern world at play; play is not so much an escape but a response to life. The experience of

uncertainty, diversity, and change is dominant today and affects ECE. Play's quirkiness and flux, its nonlinear back-and-forth quality (*Spiel*, the German word for play, also means "to dance") is a kind of binary code in the software programs for imagination, creativity, and problem solving so crucial to meeting present-day challenges and future unknown realities.

Gordon Burghardt's 2005 *The Genesis of Animal Play* states that play behavior occurs when (a) the organism is safe, relaxed, and free from extreme wants; (b) play is *autolectic* (i.e., spontaneous, voluntary, intentional, and often pleasurable or rewarding); (c) often observable as repeated behavior; (d) not purposeless but also not entirely functional in the context expressed; and (e) often exaggerated in expression and incomplete as final functional elements are dropped. Although coming from biology with animal play in mind, these five attributes resemble ones on lists more commonly deemed useful in ECE.

Play Concepts in Early Childhood Education

ECE theory and praxis is concerned with a rather narrow subset of the wide range of known play manifestations. Children's play with their bodies, objects, symbols, and others is considered in schemes used by researchers and teachers to account for it. For example, in ECE, play that is solitary, parallel, or socially interactive is often nested with physical, functional, constructive, dramatics, or games-with-rules play forms to track both the sociality of play and its cognitive form. Block and puzzle play (constructive), simply using toys (functional), or enactments with dolls, puppets, or dress-up clothes (dramatic) can occur when the young child is alone (solitary), near another child playing similarly (parallel), or in social commerce (interactive, which can be merely associating or, on a higher level, cooperating with peers).

School-sanctioned, academic or *educational play* is defined as play that is initiated, controlled, paced, terminated, and assessed by the teacher for

its educational merit. Educational play is a planned part of the curriculum, joining deliberate investigations and expository teaching/receptive learning as pathways to developmental enrichment in the classroom. Play purists question whether educational play is genuinely play since it is not intrinsically motivated behavior but motivated by the relationship children have with their teacher.

In contrast, *everyday* play is recreational, outside teachers' influence; such "real play" or ordinary play is more likely to happen during free play, at recess or at other times on the playground, or when the child is at home. Such ordinary play can be cooperative, competitive, illicit, defiant, even mildly or moderately gross, foul, or mean-spirited. To remain play, however, there must be reciprocity and respect between or among persons. Accordingly, bullying cannot be defined as play; but superhero and power play can be viewed as play since the aggression is not real but only thematic. In ECE, a primary concern is with educational play (e.g., documenting classroom play) and a secondary concern is with recreational play (e.g., advocating).

Developmental or age-related play is a major concern and target in ECE programming and teaching. To simplify, infants engage in a great deal of exploratory play and imitative play with objects—solitarily, socially with peers, or with caring parents or teachers. Toddlers, much the same as infants, enjoy face-to-face playing with objects, doing finger-plays, singing, and the like. However, they are growing up and are exploring a wider world and showing increasing autonomy in their play behavior. During the preschool years, the children continue to develop and are seen often building with blocks; using icons and numbers and letters in computer play; performing social pretense, dramatic play, or imaginative play with objects; or playing simple games with rules.

Both Jean Piaget and Lev Vygotsky provide arguments for the importance of play in ECE. Piaget views play as assimilation (i.e., bending reality to fit preexisting cognitive schemata) in complement to accommodation (i.e., modifying cognitive schemata in response to incoming information). Both processes work in tandem to

achieve adaptation. Accommodation generates new learning, while assimilation integrates it and makes it more meaningful.

In ECE when the child is imitating or exploring, he or she is engaged more in accommodative behavior than in assimilative behaviors. Imitating or exploring is more stimulus oriented, while playing is more response oriented. In the former, the child is asking, "What is this?" but the playing child is asking, "What can I do with this?" Often, these behaviors form a pattern as the child examines, reexamines, and transforms objects. Some ECE authorities refer to this as epistemic play (investigative behaviors) and ludic play (pretense). Play is a dynamic state and seldom are children exclusively playing for an extended period of time; there are admixtures of play and nonplay and playlike behaviors, such as imitation or investigation or "work" happening within a typical play period or episode.

Play and work can co-occur in a complementary and dynamic way. Play can become work, and work can become play. But play is not the work of children according to this line of reasoning. Play can be better viewed as an occupation of childhood, just as loving and feeling loved are important ways of the young child being in the world. In addition, the opposite of play is not work; negation of the play spirit produces or is caused by psychological depression. Depression is the opposite of play.

Vygotsky views play as a way of self-scaffolding in the zone of proximal development, enabling the child to perform at a level beyond his or her developmental stage, which propels learning and development. The teacher or an older or another child "play expert" can also scaffold a child's play. To do this effectively, the teacher or expert needs to recognize the difference between the *play frame* and the *play script*, or the context (frame) and the text (script) of play. What children do within the play frame is *play enactment*; what they do outside the play frame often is *play negotiations*. While the former are the actual play actions, the latter are discussions about the play, deciding which roles each child will have, what props or substitute objects will be employed, and where and when pretend or real actions will occur.

Play facilitation strategies or interventions designed to enrich and extend complex social role play, for example, demand recognition of the invisible boundary surrounding play, the magic circle of play as it is sometimes called, from the actions and words that are taking place outside this boundary; or play context affects the play text. Without the auxiliary concepts of play frame and script, context and text, and play episode, an ECE teacher or researcher cannot adequately observe, interpret, and analyze children's behaviors to discern the meaning of children's actions. These play concepts and terms are also indispensable for description and commentary in play assessment and documentation.

Play is potentially influential in the development of early symbolization, self-regulation, and social competence and in meeting mastery and control needs the young child cannot satisfy in reality. Some benefits are not a given but are a function of the quality of the behavior. One major type of quality play is mature role play, which is a leading activity, or an activity that plays an essential role according to the theories of Vygotsky. To explain, close emotional communications is the most consequential or leading activity for the infant and toddler's psychological development; after 6 years, mastering the disciplines of academic subjects is the leading activity for mental development. The leading activity for preschoolers up to 6 years old is mature role play since it is invaluable for constructing an understanding of the social world.

Mature role play is high-level play in contrast to low-level "immature role play" marked by children's quarrels over toys, restricted speech, overreliance on realistic toys, and short and erratic play episodes. Mature role play makes the child appear, as Vygotsky (1978) put it, "as though he were a head taller than himself" (p. 102). The following attributes are present: (a) there is an imagined situation; (b) the pretend situation follows implicit rules from cultural scripts (e.g., enacting "grandma" requires knowing and following social norms about the role of grandma); (c) explicit roles, such as overt enactments of self and other person transformations (e.g., "I am Batman, and you be Robin."); (d) object and situational transformations, as in the

use of real objects or substitute or invented or imagined objects or props for make-believe play, and use of language to transform time and space (e.g., "Let's pretend it is in the middle of the night and we are lost in the forest."); and (e) sustained play over time and even days in the same play theme.

Here role play is privileged as the leading activity from 3 to 6 years. But one can extract from *quality role play* key features such as elaboration, persistence, concentration, verbal interaction, and social reciprocity and judge whether they are present in other *quality play*, such as game play or constructive play. What is important to take from this is that in ECE quality play is the aim, not just play. Although defining quality play is difficult, such play usually reveals some planning, social cooperation, and verbal elaboration.

Conclusion

Distinguishing play and playlike behaviors from other behaviors, and being able to judge more mature or developed play from less developed or immature play, are important skills to possess for accountability in ECE practices and policies. Since play defies any simple straightforward definition, the field grapples with the notion of play by delineating its attributes, types, development trajectories, potential benefits, and criteria for quality play.

By having within one's professional working vocabulary a clear understanding of the play concept, and its auxiliary concepts (e.g., frame, episode, negotiation, enactment, exploration, imitation), the ECE practitioner can more effectively engage in intelligent conversations about play with colleagues, administrators, policy makers, and parents. Play advocacy, play assessment, and play documentation also require a good dictionary as a conceptual base—all of which can help restore and sustain play's importance in the field.

James E. Johnson

See also Child-Initiated Play; Cultural Variations in Play; Play, Benefits of; Play, Nature of; Play and Early Childhood Education

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PLAY, NATURE OF

Childhood play defies definition and some researchers even refuse to try to define it. While the Eskimo have 50 or more words for *snow*, the English language's singular word of *play* encompasses many childhood and adult activities. Is playing dressing up, building blocks, finger painting, kicking the ball on playgrounds, swinging a bat at a baseball, or manipulating the keys of a piano? While societies have been studying childhood play for centuries, dating back even to Plato and Aristotle, there have been various theories about why children play. This entry first discusses various theories about play that have been commonly held in the past, as well as more recent theories. It then discusses the various types of play children engage in and the functions they serve.

Theories About Why Children Play

Pre-20th-Century Theories

- *Excess Energy*—A child has too much energy and active physical play actually eliminates the extra energy from the body, wearing the child out.
- *Relaxation or Replenish Energy*—Playing allows the mind to destress and relax and recharges the body with energy.
- *Evolutionary Recapitulation*—A biologically based theory that stated children go through the same play sequences that all mammals experience with increasing time and complexity spent in childhood play the higher the order of animal and the level of civilization.
- *Instinct-Practice*—Play is for learning future adult roles: for example, mother, father, teacher, or cook.

Twentieth-Century Theories

- *Psychoanalytic*—Symbolic or pretend play is cathartic, actually relieving the pain and trauma of everyday events or disturbing situations—spanking doll baby, giving the stuffed toy a shot, pretending to be the mean sibling.
- *Cognitive Development*—The purpose of play is to construct knowledge or cognitive concepts through the manipulation of materials in the environment such as blocks and other toys and through interactions with other adults and children.
- *Functional Play*—Play is for the sheer joy of doing something over and over again, such as swinging, hopping, skipping, or tapping fingers on the table.
- *Construction Play*—Play has a defined purpose: for example, building a fort in the block area, making a prop for a play theme, or painting a picture.
- *Symbolic Play*—This type of play involves a representation of an absent object: for example, pretending there is food in the dish and eating it, or dialing a telephone in the air.
- *Sociodramatic Play*—This is a more engaged type of pretend play that involves both interactions with other children and the use of props and symbols; it is considered the most highly developed form of play.

Twenty-First-Century Theory

- *Neural Evolution*—This new theory holds that play is the medium that actually connects the brain cells in order for one to make sense of the world.

All theories of play are accurate to some extent. The neural evolution theory, however, combines all the theories into one all-encompassing explanation of how the brain cells connect, thus making sense

of everything from concrete knowledge about the environment and construction of cognitive knowledge to emotional intelligence about one's intrapersonal self. In studies of animals, researchers found that animals that played longer in "childhood" had larger brains. In fact the larger the brain, the more apt that animal was to survive its environment's challenges. Recent research on brain size of deprived and vulnerable children reports that their brains are smaller in mass than those of typical children.

Types of Play

Maria Montessori is often credited with saying play is the work of the child. No early childhood educator would deny that children learn through play. There are many types of play, however, and neuroscientific research is showing that not all play is equal. Table 1 gives some examples of different kinds of play found in preschool and kindergarten classrooms and what children are learning.

Table 1 Types of Play

<i>Type of Play</i>	<i>Materials</i>	<i>Outcomes</i>
Construction play, wood-working	Blocks, LEGOS, lumber, cardboard, building supplies, boxes, etc.	Math concepts, fine motor skills, balance
Creative play	Easel painting, other art mediums such as clay, Play Doh, markers, etc.	Science of color, shape, design, aesthetics
Manipulative play	Beads, beans, junk	Sorting, classifying, fine motor skills
Sand and water play	Sand/water table or outdoors, shovels, buckets, watermills, etc.	Texture, volume, science
Play with symbols	Materials found in language/library/writing center	Use of symbols on paper
Exploratory play	Just about anything: Snow in a bucket, planting a seed, what's in the picture, one square foot of the playground grass	Curiosity, investigation, problem solving
Gross motor/active play or functional play	Running, climbing, throwing, swinging, sliding	Large muscle development
Oral language play	Songs, finger games, poems, and rhymes like "Joe, Joe, Bo Bo, Banana, Nana, Fo, Fo . . ."	Rhyming words, phonemic awareness, vocabulary
Music play	Instruments both homemade and purchased	Rhythm, beat, tune
Games with rules	Duck, Duck, Goose; <i>Candy Land</i>	Rules, one-to-one correspondence, taking turns
Dramatic play	Acting out a story	Recall, sequence of story, vocabulary
Pretend/sociodramatic play	Spontaneously acting out a situation/event	Language, creativity, rules, roles, flexibility, self-control, perspective

Source: Table, pp. 8–9, in Guddemi, M., & Selva, G. (2014). *Pretend play and brain growth: The link to learning and academic success*. New Haven, CT: Gesell Institute of Child Development.

Sociodramatic play or pretend play with others is considered the most mature form of play. During this type of play executive functioning skills are being developed. Executive functioning skills are focus, persistence, problem solving, creativity, cooperation, curiosity, ability to delay gratification, flexibility, and more. These skills are associated with school success. Furthermore, higher levels of executive functioning skills better predict school success than IQ. MRIs of the brain have shown that children who have mastered mature sociodramatic play have more neurological connections in the prefrontal cortex where executive functioning skills are housed.

Piaget proposed the following characteristics that define *true play*:

- exists for no clear purpose,
- spontaneous,
- engaged in for pleasure,
- lack of organization,
- free of conflict,
- contains elements not found in the real world (symbols),
- lasts for at least 10 minutes, and
- includes language and interaction.

Mature sociodramatic play takes on additional characteristics:

- Must be with two or more children
- Deep engagement
- Planning the play event
- Rules for each role

Based on these characteristics, construction play would not be seen as play.

Need for Play

Researchers have documented that children play less today overall, play less outdoors, play less at home due to “screens,” play less at school in the classroom, and have little or no time to play at recess. These are alarming trends. The benefits and necessity of play for optimal child development are better known today than at any other time period

in the history of the world; yet play, all kinds, is not valued as important or as a right of the child. School officials, governmental policy makers, teachers, and parents need to understand that the role of play in a child’s life is critical. Based on research that play is an important predictor of school and civic success, some early childhood experts recommend that parents and teachers provide time for at least 30 to 40 minutes of intentional play in the home and/or classroom daily and an additional 30 to 45 minutes of play outside daily.

Marcy Guddemi

See also Cognitive Developmental Theory; Creativity; Executive Functioning; Play, Definition of; Social Play and Cognitive Development; Sociodramatic Play and Sara Smilansky

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PLAY AND EARLY CHILDHOOD EDUCATION

Play is perhaps the roomiest area of early childhood education (ECE) in terms of researchers’ interest. Play, policies, and practices is the largest special interest forum of the National Association for the Education of Young Children (NAEYC). The topic is included in some way in practically every issue of journals and magazines devoted to young children; and many books have been published with the word *play* in the title. These works have been theoretical and research focused as well as practical and policy leaning in nature. If anything, the field’s interest in play is increasing.

Hardly a week goes by without yet another publication of a new book on the subject, or an announcement of a major forthcoming convention or community event centered on children's play.

Textbooks for teacher preparation courses dealing with play and ECE first appeared in the United States in the late 1980s with the publications of *Play and Early Childhood Development* by James E. Johnson, James F. Christie, and Thomas D. Yawkey and *Play as a Medium for Learning and Development*, edited by Doris Bergen. Many others have followed signaling sustained demand for syntheses of knowledge about applying research and theory on play to classrooms and other early childhood settings.

Over the last three decades advancements have been made based on research and theory with respect to what is known about play and various aspects of child development and early learning and in how to integrate and utilize this knowledge in ECE. Concepts and uses of play in early education cross over numerous topics including the ones that follow.

Theories

Why is play so important in ECE? Play finds itself center stage in conversations about early education due to common understanding of children by those who are with them on a daily basis. Parents and teachers know that play is a major occupation of young children, a way of their being in the world that rivals in importance their feeling loved and secure, cared for, and protected. Often heard are the expressions "Play is the business of childhood," "Play is the child's work," and "Play is the way children learn everything we can't teach them."

Many theories exist extolling the virtues of play in childhood and expounding upon its significance in early development and learning. These theories seek to explain play phenomena and what roles play serves in the life and growth of children. Teacher educators and teachers in early education learn and use play theories in multiple ways to guide their thinking and actions. These theories, which may be grouped as classical, modern, and

postmodern, have helped them form their own ideas and working theories about play in ECE.

Classical theories date from the 18th and 19th centuries and include surplus energy, recreation, and practice theories, associated with Friedrich von Schiller and Herbert Spencer, Moritz Lazarus, and Karl Groos, respectively. Teachers and parents can find value in all these theories. For example, viewing the purpose of play as being to expend surplus energy suggests alternating periods of active play with sedentary activities; the practice lens is applied by encouraging children to engage in play related to skills needed in later life, such as literacy-based dramatic play; and the play as recreation model implies the need for playtimes to offset and restore energy expended in intellectually challenging academic activities.

Modern theories date within the 20th century and include psychodynamic (Sigmund Freud and Erik Erikson), social learning (Albert Bandura), and the views of Jean Piaget and Lev Vygotsky. These perspectives are useful additions to classical accounts by helping to explain play as important for the overall well-being and development of young children. Foregrounding feelings and unmet needs, the psychodynamic lens suggests the importance of finding ways to have play themes that allow children to vent frustrations and work through conflicts associated with negative experiences.

Social learning theory is applied when modeling is used to enrich and extend play. Piaget's theory of play and assimilation gives a greater appreciation for the rhythm of learning cycles and the need for play as a period of consolidation. Applicative aspects of Vygotsky include employing facilitation strategies leading to richer play valued as a leading activity for children's mental development up to 6 years old.

Postmodern theories include sociocultural, critical, and chaos ones. Sociocultural theory can remind teachers to include culturally diverse content when setting up activities and to remain ever mindful of divergent values and beliefs. A critical educational lens brings up the politics of play as seen when academic mandates infringe on play demanding teacher attention, or when teachers are alert to the need to intervene or challenge children's play that is

stereotypic or exclusionary (social justice). Chaos theory with its emphasis on complexity, dynamic states, and nonlinearity recommends greater tolerance for ambiguity and the need for flexibility and adaptability. Play can be used to foster creativity and readiness for change, or “protean selves.”

Research Base

Empirical evidence complements the theoretical evidence for play’s importance in early childhood. In addition to experience and teacher and family lore, scientifically valid information comes from qualitative and quantitative disciplined inquiry (Johnson, Sevimli-Celik, & Al-Mansour, 2013). The evidence points to play’s value in early childhood development and well-being across a number of domains, including the personal–social and the intellectual–academic.

Vivian Paley’s legacy as an ECE teacher, researcher, and writer is well known and has yielded rich data across her many books and vignettes in support of how important play is to the emotional state of the child transitioning from home to school, a critical concern in ECE. Play is central to an ECE curriculum of caring and meaning so critical for helping “little children” become “little students.” Paley’s stories and anecdotes show how play used well by teachers produces classrooms where activities for constructing meaning occur along with the process of community building in which each child can feel a sense of comfort and belongingness as opposed to an anxiety about having to fit in and perform.

Another fruitful avenue of research targets self-regulation. Research done within the Vygotskian tradition with the Tools of the Mind curriculum, among other studies, has produced results supporting a relationship between mature role play and self-regulation. These studies estimate the young child’s ability to inhibit responding as evinced, for instance, in Simon Says game performance. Those showing greater inhibitory control on tasks such as this exhibit more high-level play. Cleanup time behavior relates to how well children engage in sociodramatic play.

Many studies using correlational and quasi-experimental methods in the 1970s and afterward have produced findings linking play with emerging numeracy and literacy and other indicators of cognitive and language development. Among the child abilities associated with play include math and spatial thinking, vocabulary, language use, narrative competence, perspective taking (including theory of mind performance), problem-solving skill, conservation ability, and divergent thinking.

Many criticisms have been made about this research corpus because studies have been beset by methodological flaws such as testers not being blind to play treatment groups in quasi-experimental research, or play not being defined well and conflated with other variables such as adult attention and peer interaction. Benefits might ensue from these variables and not play *per se*. Nonetheless, sufficient reason exists, due to the massed data coming from so many different sources, to dismiss the critics who might insist that these favorable results are spurious and due merely to the “play ethos,” or the biased general view or sentiment in favor of play being good for development. Still, more and better empirical work is called for on this important topic in ECE.

Types of Play

Given the enormous diversity of play manifestations, ECE delimits and defines certain kinds of play as falling within its scope and purpose. The major forms include solitary, parallel, and interactive to denote the level of social commerce, and functional, constructive, dramatic, and games with rules to indicate the cognitive forms of play. Usually these are nested. For example, a child putting a puzzle together is solitary-constructive play; two children side by side pushing cars along a wooden track would be parallel-functional play; but building a network of roads and bridges is constructive-interactive play. Pretense or dramatic play also is exhibited with varying degrees of sociality, such as solo puppet play, using puppets in close proximity with another child without interacting

(parallel play characteristic), or planning and staging a puppet show as a group.

The structural scheme just described is not all-inclusive since other forms of play involving one's body (physical activity such as simple motor movement or gymnastics) are left out—unless one considers this use of the body to be like the use of any other object, in which case the labels *functional* or *constructive* are useful. The scheme is elastic and can be stretched to include many forms of activity in ECE, even the use of books, DVDs, or computer games, as constructive or functional depending on the degree of order, planning, and goal directedness in the behaviors exhibited. However, ECE has typically employed other labels for such play, such as *reception play* (physically passive but mentally active play, such as listening to an audio-recorded story).

Additional types of play in ECE include risk taking, large and small motor, rough-and-tumble, sensory or exploratory, mastery, superhero or war, imaginative, imaginary companion, creative, computer or digital, language, art based, and academic play. These descriptive labels seek to convey something more about the play than simply reducing it to a choice along the cognitive form dimension from functional through constructive and dramatic to games-with-rules play. They can be used along with a consideration of the social level of the play (e.g., solitary, parallel, and interactive).

All these types of play in ECE are forms of *educational play*. Educational play is play that is on some level initiated, monitored, paced, and terminated by the teacher. Usually, it is seen in preschool, kindergarten, and primary classrooms, although it can occur in other indoor spaces such as gymnasiums and outdoor play environments. Teachers use materials, time, spaces, and their own energy in interaction with children's engagement with objects, symbols, peers, and their own bodies to create educational play at school. Educational play results from transaction between teacher and peer cultures, a blending of their different agendas motivated *relationally*. Such play is different from ordinary play children do in other settings, which is *intrinsically* motivated.

Educational play excludes certain kinds of behaviors that may be seen at school, such as illicit or deviant play or children doing pranks or other acts of playful misbehavior.

Play at school during recess for older children in the primary grades is usually considered recreational play and not educational play; although what happens on the playground does often have important social learning value. It can be relevant to the school curriculum. With younger children on the playground, teachers' presence and supervision and interventions are more prevalent and hence the play becomes a mix of recreational play and educational play. Whether recreational or educational in nature, play is important in ECE settings and is the business of the educators. They have important roles to play.

Teacher Roles

The role of teachers in children's play includes (a) play observation, assessment, and documentation; (b) communication; (c) making provisions; and (d) advocacy.

Observation, Assessment, and Documentation

Knowing and observing the broad types of play listed earlier and attending carefully to what children do while playing is the foundation for all other teacher roles. Children's play scenarios are rich and usually include more than one type of play, with the play constantly shifting. Teacher sensitivity is key to assessing play, assisting children with their play, and performing many other teacher roles. For example, teachers perform mediation when peer conflicts happen during play; and they are engaging in another kind of role by recording children playing for later discussion and teaching or curricular planning (*teacher-as-scribe*).

Preliminary to effectively observing play and using play observations in the execution of other important teacher roles is knowing the distinction between play frame and play script, or the play context and the play text within a play episode.

The frame or context surrounds the play but is not the play itself, and the play script or text is the play. For example, the former consists of preparations and negotiations and midstream adjustments, and the latter includes the enactments and thoughts emanating from being in states of play. This conceptual distinction clarifies play by setting it apart from other important processes and thereby helps in guiding interventions.

Teachers can help children return to their actual playing by stepping back as soon as possible after assisting with peer mediation or play suggestions, or after making an on-the-spot alteration in play scenery or prop availability. Teachers respect child-initiated play by not interrupting it with unnecessary teaching that snaps the play frame with some reality intrusion. Usually teaching can wait until later after the children are done playing. Sensitive teachers are keen on giving voice and empowering children at play. Interpreting play properly requires that it be viewed at both levels: the play context and the play text.

Although generally parallel-functional play is less mature and expected to be an earlier occurring form than dramatic and constructive-interactive play, within each type there are levels of performance. Teachers need assessment criteria to make judgments about play quality to monitor children's progress, to plan for new activities and learning opportunities, and to guide selections about what to include in children's work- and play-sampling portfolios, albums, classroom websites, or on classroom documentation panels.

Criteria used depend on chronological and psychological age and the kind of play under consideration. Generally, motor-physical, social-moral, language, cognitive, and imaginative-creative action dimensions are used when evaluating play. Play that is more developed typically possesses higher levels of differentiation or specificity of parts, as well as greater organizational coordination, coherence, or integration with respect to object and symbol use, verbal behavior, and social interaction. For example, mature social pretense is marked by an absence of conflicts over toys, persistence over time, and degrees of verbal social

interactions, symbolization, and transformational thinking (e.g., employment of invented or substitute objects over realistic props).

Play assessments of individual or groups of children over time provide valuable information about the progress occurring in the classroom provided that a consistent, comprehensive, and objective system is used. Drawings, constructions, story narrations, sociodramatic play, dance or musical performances, and the like can be captured on video, digital camera, and narrative descriptions, checklists, and records. Play observations are dated, retained, and organized for later study that can reveal insight about learning and development over time. These data serve accountability purposes well to the extent that procedures were used to avoid cherry-picking best examples only or otherwise misrepresenting the data. A fair and balanced account of changes in children's play preferences and abilities over time is required in order that play assessments and documentation be considered a sound alternative to more formalized data such as testing results.

Play documentation is valuable for public display and communication with parents, other teachers, and school administrators. Documentation has different forms, including panels, class albums, books or e-books, slide shows, movies, and other creative products. Documentation of play must include process and purpose and not just finished products. This can be achieved by including concrete examples of a child's play/work at progressive levels of completion or photos or video clips revealing progress. Documentation should not be haphazard or random. Care should be taken to tell a story or to make an explanation of the play/work unfolding and put on display. Written commentary by adults is useful to explain the child items; transcriptions of child talk made while the items were being produced are very informative. Documentation and play assessment are handy to convey topics of learning in a classroom, show developmental progress, show accountability, and make learning and playing visible. They can extend playing and learning in the present and future as well

by the memories and inspirations provoked by the records and displays.

Communication

Many teacher roles connected with children's play in ECE have to do with communication. This was alluded to earlier when distinguishing play frames and scripts and sensitive teacher interventions. The degree of teacher involvement in play deemed necessary or helpful to children is a critical question. Generally speaking, the contingency principle is used to answer this question. Teacher play facilitation strategies are employed less or are less directive in nature as children show more independent competent play, and are more frequent and teacher directive when children seem less able or successful in play. For example, teachers may see children needing help to complete making a bead necklace.

To illustrate further, Smilansky (1968) discussed two kinds of interventions using sociodramatic play with preschoolers. Outside interventions (external to the play episode) were when teachers provided background experiences related to the play theme, such as taking the children on a field trip to the grocery store. The teachers set up special props and play areas to support the grocery theme. Inside interventions (internal to the play episode) refer to the use of teacher strategies to scaffold children's enactments. As mentioned, teacher observation is important to discern how to support and scaffold play. At times, teachers' parallel playing is enough to encourage children to play; at other times, teachers can coplay with the children to provide more structure, or offer hints to advance play plots. Sometimes they tutor play by directing the play episode, for example feeding the children lines to say for enacting a character in a story dramatization (*thematic fantasy play*).

Scaffolding is done dynamically in accordance with the child's level of performance. Educational play is understood as relationally rather than intrinsically motivated. Children are motivated to play in relationships with teachers. Adult involvement in children's play is justified when children

can exhibit improved play skills with peers later on, independent of teachers' presence. Children receive play ideas and actions from teachers. This enriches and expands their play repertoires that can be put to use on other occasions involving peers only.

The communication role is enacted across many play settings, ranging from children in so-called free play periods to when teachers are facilitating or directing their play in large or small groups or on a single-child tutorial basis. Teachers' use of questions, helpful comments, suggestions, and showing examples are all modes of influence on children's play. Communications across the daily schedule have direct or indirect effects on play, such as seen when a special visitor during community time inspires a certain theme of make-believe play during the designated play periods of the school day.

Making Provisions

Making provisions in outdoor and classroom environments is an important teacher's role enacted in setting up permanent and semipermanent features as well as temporary situational arrangements for specific theme-based or special event play. Space and materials as well as time allotment are factors that enter into the equation for quality play.

Space and objects are arranged in various play centers that are typically thematically defined and labeled as the book or block area, writing center, art center, dramatic play center, music center, and so forth. Areas with ECE classrooms are designed to promote specific activity either with or without the participation of other children or the teachers. The quality of play depends in part on how well the centers are organized internally and in relation to each other over the floor plan of the room. For example, centers likely to elicit more quiet play, such as in the book or small manipulative objects areas, should be located some distance from the large-motor, blocks, or dramatic play areas.

Borders and partitions help define play centers, with bulletin boards, bookshelves, and other materials helping to divide indoor space. Play is

supported and can be enhanced when partitions are used within an open-plan design. Dividing on two or three sides but open and accessible on at least one side supports quality play. Lofts and other sheltered areas for private and cozy play are also conducive to positive indoor play. Further recommended is striving for a balance of types of play materials, such as complex versus simple and open-ended and closed-ended. Such balance affords better quantity and quality of play and variation of child uses of different materials in the environment. Consideration also needs to be given to the degree of realism versus symbolic abstraction in the materials, and to how many children can engage with the materials at a given time and place (Johnson et al., 2005).

Moreover, it is important to balance technological and other objects. Teachers should plan to assure that children are challenged proportionately with physical materials such as three-dimensional blocks and computer-based materials such as electronic block building programs. In general teachers' criteria in making situational arrangements for play involve balance and variety of types of play opportunities, with special attention given to promoting collaboration, language use, and creative expression. Toys should be chosen that stimulate many forms of play, conducive to problem solving, socializing, and creativity. Always important is the safety and the developmental appropriateness of the materials and the play environment design.

Time and scheduling for play is important. Play experiences must be planned in relation to other curriculum activities and parts of the daily schedule (Johnson et al., 2005). The beginning and ending of the school day for play can compromise quality since children can be arriving and departing at different times, which can disrupt play in social groups. Younger children may need an hour at least in order for higher quality play to emerge and stabilize. Some children spend a great deal of time planning and getting set up for play. Play periods that are too short preclude high-quality play. In addition, the tempo and pattern of different activities across the daily schedule are important to

consider—for example, more active times being broken up with more quiet times, such as free play and circle or community time, with snack and nap time. Free play or child-initiated activity is interspersed with teacher-led activities and small groups. The entire school day must be considered when evaluating the play potential of an ECE program since there can be interactive effects among the different activities that are scheduled. For example, what happens during the structured teaching parts of the curriculum can benefit play, as when a unit on the sea stimulates sociodramatic play involving content related to sea life.

Making provisions entails space and time considerations and the selection of toys and materials. The building blocks are numerous features and the glue that holds it together is the way that teachers enact their roles in the service of playing and learning children. Various roles to support children at play are common across ECE programs, but they can demand particular expression and take on special meaning in certain cases when ECE classrooms are operating with different philosophies and within different cultural contexts. Teacher performance makes a difference to how well children play during the early years.

Advocacy

Advocacy in ECE has been defined as championing a cause, amplifying voices, and seeking and making changes in the lives of young children and their parents and teachers. Play advocacy is central in mission statements of major professional organizations such as the Play, Policy, and Practice Interest Forum of NAEYC, International Play Association, International Council for Children's Play, and Alliance for Childhood. Professionalism in ECE includes play advocacy.

Children have a basic right to their childhood, and play and childhood go together. Remarkably and sadly, often play potential is held back by barriers or through lack of play affordances. Teachers and even parents do not always understand or respect or value the importance of play. Many are indifferent or ambivalent, caught

between conflicting beliefs or goals for children's well-rounded development and school success.

Childhood compression or the societal push to rush children through their immaturity poses a serious threat to fulfilling the promises of play during the early years. Anti-play tendencies are apparent in many school systems in the United States and in families where parents pressure children with demands for academic excellence and push them toward adult-defined group activities such as taking lessons, joining clubs and organizations, ball leagues, and the like. This adult overmanagement of children's lives can lead to more passive, less robust play. Play is sharply curtailed when schools drop recess or neglect to provide opportunities for curriculum play.

The ever-increasing commercialization of childhood also raises concerns about play. Market forces have an effect on schools and families through media and advertisement and when coupled with peer group and popular culture influences can erode teacher and parental judgments and authority. Young children can be easily swayed by TV commercials to desire products that are not conducive to quality play. Materialism and a desire to conform can interfere with wholesome recreational and educational play.

Teachers and parents can work together to ensure that all children play in a variety of ways and that they keep getting better as players. Frost (2010) champions and informs about providing play-enhancing environments such as state-of-the-art playgrounds. He recommends favorable, socially inclusive environments for all children that honor the right of each individual child to play. Frost opines that priority needs to be given to balancing nature and outside play with technology-related pastimes and recreation. He further states that more open-framework intergenerational play is needed that strengthens social bonding and creativity.

Changing the curriculum toward more play-oriented experiences in classrooms is another step in the right direction. For example, prekindergartens and kindergartens need to have times allotted for child-initiated and teacher-facilitated play.

Teacher-directed play activities also have a place, such as in creative dramatics activities, art projects, and music and dance performances. Primary grades are times for playful learning through educational games, simulations, projects, and investigations. Recess and playground time are extensions of such sound, child-sensitive, activity-based educational programs.

As parents and teachers gain more insight into the importance of play, and understand how adults are often implicated in threats to play, barriers that now exist may begin to come down and play can flourish for young children. Play advocacy by ECE professionals, parents, and other family members can be an important catalyst and a key to success.

Advocacy can be expressed in various ways. Researching the topic, collecting resources on the importance of play for all children, and informing oneself are first steps. Research can include observing children play; talking with them about play to gain their perspectives; taking inventory of play opportunities already existing in schools, communities, and homes; and assessing play needs and interests with other teachers, administrators, and parents and community leaders. What are or can be play areas, activities, or events? Information should be organized, synthesized, and discussed leading to position papers and action plans. Advocacy groups such as Alliance for Childhood and Defending the Early Years urge lobbying for better play, writing to policy makers as well as to editors of newspapers and magazines, hosting a play day at school or a play community event, and joining or donating to professional organizations that advocate for play.

Play and Individual Differences

Within ECE much has been said about the importance of developmentally appropriate practices (DAP). DAP is an inclusive notion that takes into account not only developmental level or psychological age but also the cultural background of the child as well as other so-called individual difference variables.

Systematic individual differences exist in the expression of play across ages and cultures of children and due to children's gender, personality, and special needs. For instance, boys are more likely to engage in rough-and-tumble play, superhero dramatic play, large-block play, and play themes that are active or adventuresome with pretend violence or aggression. Girls typically prefer to play in smaller groups and show an interest in a greater variety of toys and play materials, including constructive play and other table activities.

Differences in play reflect not only age and gender but also personality. Some children prefer more reality-oriented play such as building models, doing puzzles, or reading realistic stories, while other children prefer more fantasy-oriented activity, as seen in their choice of toys, games, books, and dramatic play themes. Others are more object centered than person centered in their play. The former tend to pay more attention to the stimulus detail of play objects; the latter are more concerned with peer group reactions, adult attention, and social interaction.

Different kinds of abilities and exceptionalities have an impact on play development and expression during the early years. To be sure, all children have similar interests and needs for play and peer relations, but some children who have special needs possess a more limited repertoire of skills needed for elaborative forms of independent and group play. This can influence the rate of development for children and affect play. Some children may require supports for certain kinds of play.

Socioeconomic status (SES) and cultural differences are also contributors to play. SES factors, such as low income or poverty, may set limits on availability and accessibility of high-quality play environments and expensive toys and equipment. Quality of play may suffer as a consequence. Lower levels of play may be seen more often than higher forms of play when children lack experience with basic play materials, adult modeling, or encouragement.

Children live within vibrant cultures. Cultural factors interact with SES and individual difference

variables to produce variation in play behavior and development during the early years. Although structural features of play such as sociality of play, elaboration of language, and imagination may not differ from culture to culture, play themes and content are often culturally specific. Educational or academic play, and other kinds of specific play types such as digital play, may show higher degrees of similarity across developed and developing countries than do recreational play with games, books, sports, or dramatic play themes, which are more likely to retain the unique flavor of specific individual cultures. Nowadays life is global; play is global, but also very local and personal, and important in ECE. The way play is done must be developmentally appropriate but also set to individual differences and the social and cultural situation of the child.

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See also Commercialism; Outdoor Play Spaces; Postmodernism; Sociocultural Theory; Sociodramatic Play and Sara Smilansky

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PLAY AND EARLY WRITING

Play and early writing refers to a practice in early childhood education in which play and writing practices are combined in a manner to enhance early writing and literacy development. There is convergent research evidence that (a) young children produce meaningful representations of their knowledge, thoughts, and emotions through their writings and drawings and (b) writing during play promotes children's reading, writing, language, and cognitive development. There is also convergent evidence that writing is underutilized in pre-kindergarten and kindergarten. When given opportunities to write during play, children explore oral and written language, apply what they learn about reading and writing, and engage in authentic writing experiences. This entry first explores what constitutes writing in the early childhood context and suggests ways in which educators can support very young learners by providing them with effective learning environments and tools conducive to the exploration of the written word. The entry then discusses how teachers can take advantage of children's interests and prior knowledge and use peer and teacher scaffolds to encourage effective writing.

Definitions and Types of Writing in Early Childhood Education

As in other contexts, young children's early writing during play takes on many forms. The following definitions of writing proposed by Phyllis Neves and Stuart Reifel (2010) provide particularly good characterizations:

Scribbling: Random marks combined with speech/gesture that do not represent or denote a pictograph, ideograph, or writing.

Scribble-writing: Scribbling combined with speech/gesture that indicates "writing": simple letters or conventional adult writing.

Pictograph: A drawing combined with speech/gesture that denotes a person, object or gesture

known but not necessarily seen. Several drawings can be on one page. Generally, the child orally labels the drawing or parts of the drawing. This category includes scribbling/pictographs.

Ideograph: A drawing combined with speech/gesture that tells a narrative or that represents an idea or a relationship. This category includes scribbling/pictographs.

Symbolic drawing: A drawing combined with speech/gesture that directly denotes what is seen by the child—that is, the child does not see the drawing as a representation, but as a similar object.

Letter writing: Individual letters or strings of letters that combined with the child's speech indicate they do not represent words.

Invented spelling: Individual letters or strings of letters that combined with the child's speech/gesture indicate that they represent words. (p. 153)

Conventional writing is often a part of early writing, especially with name writing. As students progress through the primary grades, they spell conventionally, especially words included in spelling instruction.

Environmental Supports for Early Writing

Environmental supports for writing include purposeful efforts that increase the quantity, and often the quality, of young children's writing. Common practices include providing the space, materials, and technologies that encourage writing. When considering space, teachers take into account the need for children to have ample space to write. For example, an environment that provides uncluttered tables, appropriate-size chairs, and easy access to materials enables children to work independently as well as interact with peers and teachers as they write. This environment also addresses the special needs of young children as they regulate their bodies and develop fine motor control to write.

Writing environments designed to enhance children's writing also provide environmental supports, including necessary writing supplies (e.g., paper,

pencils, markers, and dry-erase boards) that children can easily reach and put away. Classroom environments that support writing may include designated amply supplied writing centers or writing carts that can be used in conjunction with other play activities. Teachers may also, for example, provide menus and tablets for taking orders in a classroom restaurant center, add a table for note taking in the library center, and provide a classroom mailbox so that children can write messages to each other. In addition, a variety of print materials that serve as models and sources of ideas are available for children as they play. These materials may include children's literature, word walls, posters, and other children's writing. Various technologies also support children as they write and play. For example, iPads might be used to create drawings and stories, record observations and events, take photos of children's creations, and enable children to pretend they are doing a variety of jobs. Well-placed computers allow children to look up information, write stories, and pretend to work. Low- and high-tech assistive technology is needed to support writing for children with disabilities.

Children's Interests and Prior Knowledge

Children's interests and prior knowledge influence the quality and content of children's writing. Therefore, supportive writing environments take into account children's experiences, and teachers recognize that all children's contexts (e.g., school, home, and community) provide prior knowledge for writing. Teachers are aware that inclusion of children's interests and prior knowledge impacts children's sustained attention to early writing. They also know that ample opportunity for peer interaction in activities that support writing provides development and elaboration of children's interests in writing as peers provide support for each other's writing interests.

School practices noted in research include the inclusion of specific content areas, such as the arts, math, and science, in addition to literacy-specific activities, such as book reading and reading

responses. Teachers also include experiences, such as field trips, nature walks, assembly programs, and indoor and outdoor play, to utilize children's interests and prior knowledge to promote children's writing. Classroom planning, for example, through thematic and project-based learning, integrates children's interests and prior knowledge and provides the context for new interests and knowledge. As children insert their own interests and intentions into their writing, they record their observations, take notes to remember, express thoughts and ideas, respond to materials read and content learned, and create stories or note information to share with others. For example, they represent the savannah studied in their combined drawing and writing, write about the three little pigs, and produce ideographs of powerful thoughts such as a butterfly saving a girl from an evil bird.

Home experiences similarly include children's experiences that can be incorporated into children's writing. Teachers can encourage children to model their writing on writing they see at home, including grocery lists, notes, and letters. For example, immigrant families provide rich sources of information for their children as they write letters or e-mails to family members in their home country. Teachers can also provide opportunities for children to use family-based information, such as a child's pet or activities with siblings, to promote writing. Drawing upon children's interests and prior knowledge in this way not only provides children with models of writing but also emphasizes the importance of writing in their day-to-day lives.

Teachers' Scaffolding of Early Writing in Play

Teachers' scaffolding of early writing in play is central to increasing the quality of young children's writing. Teachers support children's understanding of writing and writing practice through providing appropriate environments, building content knowledge, fostering children's interests, and drawing upon prior experiences as noted in the previous two sections. But these are not

enough. Teachers' positive and supportive interactions with children as they engage in opportunities to write over time are essential for promoting young children's writing. Teachers' interactions with children and the experiences they provide are guided by teachers' understanding of young children's writing and influenced by their teaching practices.

Teacher interactions in play and early writing are recursive. They take children from mark making to conventional writing and complex symbolic representation, and from vague single messages to multimeaning composition with conventional writing and drawing. These interactions often take the form of teacher-child shared responsibility for the learning rather than being solely teacher controlled or child controlled. Through teachers' verbal and nonverbal communication, young children learn what it means to be a writer. The interactions give indicators of the functions of talk in writing, for example, describing intentions, explaining, and extending child's conversations (e.g., conversational oil such as "OK" in dialogue communicates that one has heard the speaker and is encouraging him or her to say more). Teachers ask children questions about the meaning of their writing and address many aspects of writing, often within the same writing event. They address children writing to express or communicate (e.g., a thank-you note to a friend, a book reading response), to develop handwriting (e.g., fine motor development), writing conventions (e.g., alphabetic code, sentence mechanics), and authoring processes (e.g., understanding audience, revising).

Conclusion

The environment, children's own interests and prior knowledge, and social supports (adult and peers) provide rich educational opportunities for young children to write. Play provides a context for rich enactment of these opportunities as children interact with writing materials and technologies, their peers, and their teachers to develop their handwriting and drawing, explore writing conventions, experiment with authoring processes,

and communicate with themselves (e.g., note-taking) and others (e.g., writing stories and sharing past experiences). Teachers play an important role in this process as they set up classroom environments that support play that takes into account children's interests and prior knowledge and as they scaffold children's learning through play.

M. Susan Burns and
Julie K. Kidd

See also Acquisition of Reading and Writing; Children's Writing; Literacy; Pretense; Tools of the Mind

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PLAYGROUND STRUCTURES

Playground structures can be broadly defined to include both fixed and portable structures included within an area designated for outdoor play. Many types of playground structures exist and vary in quality and purpose. Generally, playground structures afford children a specific physical or sensory experience. Typical playground structures allow

children to practice and demonstrate their abilities to slide, climb, swing, jump, and balance. Playgrounds and the structures found therein have changed dramatically over time to reduce injuries and to mitigate apprehension about liability for injuries. Recent innovations in playground design emphasize the benefits of more flexible manufactured and natural landscape structures that allow children to engage in more diverse types of play and to experience even appropriate degrees of risk. In this entry, readers will find a brief history of playground structures, a discussion of challenges to provide safe play that meets children's developmental needs, and a description of suggested features for playground structures.

History

The first playground structures were rotating rope swings atop tall poles. Children could run around the pole, jump, and then, using the force they accumulated, swing around the pole for a few seconds. From such minimal beginnings, manufactured equipment such as steel slides, jungle gyms, seesaws, swing sets, and other equipment emerged—often installed directly into the ground or even on asphalt. Because injuries naturally resulted, safety concerns spawned new regulations, design standards, and even the elimination of some traditional types of playground equipment. Over time and with the development of national safety guidelines, standardized manufactured structures, from single pieces to elaborate, integrated structures, have become commonplace in a multitude of indoor and outdoor play spaces.

Safety and Risk

Research suggests that homes, motor vehicles, firearms, and disease are much greater risks to children than are school play yards. However, maintaining safe play structures remains central to quality early education. Studies indicate that most severe injuries of children while attending preschool result from falls from play structures. Given the necessity of high safety standards, some child development experts suggest that failing to

respect children's inherent need to explore risk may indeed cause some injuries to result as children seek challenge in physically limited "safe" environments. The benefits associated with children's risky play continue to be debated. Although the research related to these issues is emerging, some positions claim that some risky play is essential for healthy child development. At present, playground designers are encouraged to widen the range of play choices considering children's need to test their limits. Landscape and equipment features along with temporary supervised affordances permit children to safely experiment with climbing to new heights, pushing themselves to higher speeds, and encountering "dangerous" things such as certain sharp tools and water.

Suggested Features

Although this entry has included the topic of playground safety, individuals must consult all appropriate regulations for a thorough description of requirements for outdoor play structures. Fall zones, equipment spacing, resilient surfacing, and entanglement, as well as entrapment, pinching, and protrusion hazards, are a small sample of considerations within most guidelines. In addition, some equipment (e.g., trampolines, rope swings, overhead rings, certain spiral slides) is designated *not appropriate* for any age group. A program's responsibilities to provide documentation of inspections and maintenance are also outlined in regulations and guidelines.

Within established specifications, experts recommend including a wide variety and sufficient number of age-appropriate features that are accessible to those at all ability levels. Research suggests that many manufactured fixed structures afford only limited types of play. Conversely, natural features provide physical, constructive, dramatic, and exploratory play behaviors. Embankment slides, climbing structures (including rock climbing walls or natural climbing features such as boulders and hills), balance beams, and age-appropriate swings are staples in many of today's excellent playgrounds. Multipurpose wooden decks can provide physical challenges when constructed at gradual

heights and can be transformed by children into settings for pretend play. Paved pathways facilitate the use of tricycles and other wheeled toys. Gender-neutral playhouse structures can be portable and are a staple for sociodramatic play by all children. Natural boundaries designed to enclose and highlight work with sand, water, or mud supply unending developmental value and pleasure to children. When designing a diverse environment to support active, "deep," and engaging play, structures for the storage of loose parts, toys, music, art, and construction materials are paramount.

Benefits of Playgrounds

Intensified recognition of the role of physical activity in combating children's health crises has revealed a nationwide disparity of safe, interesting, appealing, and accessible play options. Fortunately, new playground initiatives and innovations fuel a growing imagination for play structures that strengthen bodies, instill confidence, and honor cooperation within schools and communities.

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See also Nature and Young Children; Obesity Prevention; Outdoor Play Spaces; Peers and Play; Play, Benefits of; Play, Definition of; Recess

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POLICY AND EARLY CHILDHOOD EDUCATION

In the United States, the government shares in the responsibility of ensuring that children are healthy, safe, and educated through the implementation of laws, regulations, and investments. Although public policies governing the rearing and education of older children have a long history, the last half-century has seen an increased focus on policies directed at children prior to formal school entry. This shift has stemmed from two major historical developments. First, there has been an increase in the number of young children needing care while their primary caregivers work. Second, there has been an increase in knowledge about child development and the importance of early enriching experiences for later learning. These two major developments have resulted in an early childhood education (ECE) landscape that now includes a diverse array of policies and services from birth to age 5 (e.g., child care, home visiting, prekindergarten programs).

After providing a brief historical overview of ECE policy in the United States, this entry describes current major federal and state ECE policies, starting first with those policies focused

on children birth to age 3, followed by those focused on children ages 3 to 5. It concludes with a discussion of policies aiming to connect and align ECE systems with K–12 school systems.

Historical Context of ECE Policy

The earliest records of schools for very young children in the United States date back to the Industrial Revolution in the 1800s, when churches and charitable organizations began operating “infant schools.” The purpose of these schools, which served children ages 18 months to 4 years, was to provide child care for parents newly working in factories. Although these schools were not sponsored by the government and faded out by the 1860s, they were an early example of child care options commencing to support parental employment. The next time that child care surfaced to support parental employment wouldn’t come again until 1940, when the federal government became involved for the first time in child care in a substantial way through the passage of the Lanham Act. Funds provided under the Lanham Act were used beginning in 1943 to fund a network of child care centers in response to the increased demand for women’s labor to support the defense industry during World War II. Unlike the Industrial Revolution, the responsibility of war fell on the government. However, when the war ended, so did the funding from the Lanham Act, and most of the child care centers were closed.

During those same years, there were also great advances in our understanding of child development. Scholars such as Arnold Gessell and Urie Bronfenbrenner were pioneers of studying typical and atypical development of young children and making connections to children’s education. University-based lab schools, such as the Ruggles Street Nursery (now known as Tufts Eliot-Pearson Children’s School) and the Yale Child Study Center, served the dual purposes of studying best educational practices for young children and providing care. Knowledge about

the potential benefits of preschool education fueled the nursery school movement, in which more affluent parents enrolled their children in privately run nursery schools. As described by scholars Edward Zigler and Sally Styfco, this movement was an important predecessor to the next major federal ECE initiative: Head Start. Head Start was enacted in 1965 to provide preschool and other services to economically disadvantaged children as part of President Lyndon Johnson's War on Poverty. The passage of Head Start marked the first investment by the federal government in an early childhood program focused on increasing children's school readiness and healthy development as opposed to being focused on supporting parental employment. Today, Head Start continues to serve low-income 3- to 5-year-old children and their families, as discussed further in the section on ECE policies for children ages 3 to 5.

By 1970, beliefs about the importance of child development converged with the needs of working parents at the White House Conference on Children. That year, affordable high-quality child care programs were identified as the most urgent need of American families and their children. In response, the Comprehensive Child Development Act (CCDA) was written. Also known as the Mondale-Brademas bill, the CCDA would have created a voluntary, universal child care system. The bill's preamble described its goal as providing "every child with a fair and full opportunity to reach his full potential by establishing and expanding comprehensive child development programs and services" (California Newsreel, 2015, p. 26). Although the bill was passed by Congress with bipartisan support, it was vetoed by President Nixon. This bill has been described by scholars Zigler, Katherine Marsland, and Heather Lord as a "golden moment squandered" (Zigler, Marsland, & Lord, 2009, p. 13). The United States still lacks a comprehensive ECE system; however, a number of additional federal and state policies have since been implemented to support the education and development of young children from birth to age 5.

ECE Policies for Children Birth to 3

Early Head Start

Enacted by the federal government in 1995, Early Head Start is an extension of Head Start services to pregnant women, infants, and toddlers. Like Head Start, Early Head Start is a two-generation program well known for providing comprehensive services, including parent support, social services, mental health services (for both children and their families), and ECE. Early Head Start serves approximately 175,000 low-income children each year through 1,000 programs operating across the 50 states. There are four program options for Early Head Start: center-based services, home-based services, family child care services, and combination services. Each provider determines which program option to provide based on a needs assessment of the community. The center-based program option serves 46% of Head Start enrollees, provides services directly to children in an ECE setting, and offers home visits to enrolled families twice a year. The home-based program option serves 42% of enrollees and offers weekly home visits to each family that focus on supporting parents in promoting their children's development. The family child care program option, which serves a smaller percentage of enrollees, provides ECE to children in a familylike setting, typically in someone's home. Providers also have the option to offer a combination of both home- and center-based services.

To examine the benefits of Early Head Start, a national randomized controlled trial was authorized by the U.S. Department of Health and Human Services (HHS). The Early Head Start Research and Evaluation Project found that Early Head Start had small to moderate impacts on a wide range of child, parent, and family self-sufficiency outcomes at the end of the program. Impacts were the largest for programs that fully implemented Early Head Start's performance standards and for those that offered combination services. Although impacts on children's social-emotional outcomes, parenting, and parent well-being remained when children were 5 years

old (2 years after Early Head Start ends), those impacts were no longer detectable by the time children were in Grade 5.

Child Care Subsidies

The year after Early Head Start was enacted, the Child Care and Development Block Grant provided federal funding to expand child care subsidies for working parents. States were also required to match the federal funding. The goal of child care subsidies is to lessen the cost of child care for lower income working families while supporting parental choice. The current funding stream, known as the Child Care and Development Fund (CCDF), reduces qualifying parents' cost of care for children under the age of 13. In practice, approximately 1 in 3 children served by child care subsidies are under the age of 3.

Although states determine family eligibility criteria and the types of settings that qualify for subsidies, in general, subsidies can be used to pay for care in a variety of settings, including center-based care, family child care, or care in the family's home (e.g., from a relative). Benefits of this policy include that it increases family disposable income and parental employment, making it an effective work support policy. On the other hand, one of the biggest critiques of the child care subsidy policy is that many of the children end up in low-quality care that is known to have a negative impact on their development. There are several reasons why a family receiving child care subsidies may not choose high-quality care. Two widely cited reasons are that (1) high-quality care may not be available nearby and (2) local high-quality providers may choose not to accept subsidies. Some states have attempted to address these issues by increasing the value of subsidies or using a tiered reimbursement system, in which care settings with high-quality ratings receive a higher reimbursement rate for accepting subsidies. The idea is that such policies will both encourage high-quality care settings to accept subsidies and encourage low-quality settings to improve upon their quality.

Home Visiting

In addition to home-based Early Head Start, a number of other home visiting programs have received government funding in recent years to promote positive parenting practices and support children's cognitive, achievement, social-emotional, and health outcomes. Specifically, in 2010, Congress launched the Maternal, Infant, and Early Childhood Home Visiting Program (MIECHV), which allotted funding to states in order to provide evidence-based home visiting services to low-income families. In these programs, a professional or paraprofessional visits pregnant mothers or new parents in their homes to deliver information and engage in parent-child activities. These services are often combined with other services, such as health care and referrals. Home visiting has been seen as an especially useful service delivery mode for reaching isolated families and tailoring services to individual families' needs.

There are 17 home visiting programs that meet the HHS criteria for evidence-based models. These include Family Check-Up, Healthy Steps, and Parents as Teachers. The most widely known evidence-based home visiting program is the Nurse-Family Partnership (NFP). Developed by David Olds in the early 1970s, NFP now operates in more than 400 counties across the United States with a combination of public and private funding. In NFP, registered nurses visit first-time, low-income mothers weekly to biweekly in their homes starting early in pregnancy and ending when children are 2 years old. The program focuses on improving mothers' health, prenatal care, parenting skills, and economic self-sufficiency. Large-scale evaluations of NFP have found meaningful long-term impacts on a number of maternal and child outcomes, including reductions in child abuse and neglect, emergency room visits, and child behavior problems. The newest efforts for NFP include increasing program fidelity and continuing to improve its model and delivery.

In sum, though policies supporting the care and development of children birth to 3 are still in their infancy, great strides have been made in the past 2 decades as policy makers and the public have

increasingly viewed the first few years of life as foundational to all of the learning, health, and development that follows.

ECE Policies for Children 3 to 5

One of the most prominent ECE policy issues is the expansion of public preschool. According to a 2013 Society for Research in Child Development policy brief written by Hirokazu Yoshikawa and colleagues, 39% of 4-year-olds were then attending Head Start or public prekindergarten programs. As the merits of preschool education policy have been deliberated, both Head Start and state prekindergarten have been put under the microscope.

Head Start

Today, the federal Head Start program provides preschool services to about one million low-income children each year, reaching approximately half of those who are eligible. Like Early Head Start, Head Start has been subject to a rigorous national randomized controlled trial. The National Head Start Impact Study found that, at the end of the program, the group of children offered Head Start showed greater benefits in school readiness and measures of family processes than the group of children who were not offered Head Start. However, by the end of first grade, the groups looked similar. Given these findings, whether Head Start “works” has been the subject of much debate. Many hypotheses have been generated about why Head Start has not resulted in more long-term impacts on these outcomes. One explanation is that members of the control group ended up having similar experiences to those in the experimental groups, even though they were not offered Head Start as part of the experiment. In other words, children who weren’t enrolled in Head Start still had a high likelihood of receiving comparable services. For example, in the Head Start evaluation, nearly half of the control group enrolled in center-based care. It should also be noted that though there weren’t many average effects that persisted to first grade, some populations of children in Head Start did continue to show improve-

ments. Importantly, Head Start had more robust and longer-lasting impacts for dual language learners and children with special needs.

A different study of Head Start by David Deming found that even when test score impacts converge, there may be long-term impacts on other young adult outcomes. Deming compared siblings that differed in their enrollment in Head Start, controlling for a number of other differences between the siblings. He found that Head Start participation produced positive benefits on a number of young adult outcomes, including high school graduation, earnings, and reduced crime. The findings of this study and the National Head Start Impact Study highlight the complexities of trying to determine if a program works. The debates around Head Start research findings have brought an increasing recognition that to inform policy, it is important to ask not only if a program works, but also for whom, for what outcomes, and under what circumstances. The answers to those questions will inform not only the future of Head Start, but also the numerous other prekindergarten programs that are publicly funded.

State Prekindergarten Programs

Along with the federal Head Start program, a number of states have implemented their own prekindergarten programs. These programs are funded, controlled, and directed by the state governments and are distinct from state child subsidy programs (though in some cases the two programs are coordinated). According to the latest *The State of Preschool Report* from the National Institute for Early Education Research (NIEER), there are 53 programs operating in 40 states and Washington, D.C., that serve 1,347,072 children. These programs are quite diverse, varying on indices of both access and quality. Twenty-nine programs have an income requirement for enrollment (versus no income requirement), 15 programs require full-day operation (versus half-day or locally determined), and 39 programs operate on an academic year (versus locally determined). Though the overall quality of programs has increased in recent years, only five state programs (Alabama, Alaska, North

Carolina, Rhode Island, and Louisiana) meet all 10 benchmarks used by NIEER. The benchmarks include whether the program has comprehensive early learning standards; requires the lead teacher to have a bachelor's degree; requires specialized training in pre-K; requires the assistant teacher to have a Child Development Associate (CDA) credential; requires at least 15 hours a year of in-service training; has a class size of 20 or lower; has a staff-child ratio of 1 to 10 or better; has vision, hearing, and health support service; offers at least one meal; and conducts site visits. On the lower end of the spectrum, there are six states (California, Ohio, Vermont, Florida, Texas, and Pennsylvania) that meet fewer than half of those benchmarks.

Differences in access and quality across states can in part be explained by the different amounts of funding that are allotted to prekindergarten programs. In addition, even once state money is allotted to fund prekindergarten programs, difficult policy decisions must be made about how to spend that money. In a 2011 book titled *The Pre-K Debates*, edited by Zigler, Walter Gilliam, and Steve Barnett, scholars weigh in on current controversies, such as whether a program should be targeted (i.e., have an income requirement) or universal (be offered to everyone, regardless of income); what the minimum teacher requirements should be (e.g., Should a bachelor's degree be required?), and how program quality should be supported. Other policy issues surrounding prekindergarten programs include whether programs should be 1 year or 2 years; what curricula programs should be used; and whether the benefits of preschool justify the costs. Although the answers to these questions aren't yet clear, recent research has allowed for some recommendations based on the best of what we know.

The 2013 Society for Research in Child Development policy brief summarizes research finding that a second year of preschool shows additional benefits, but smaller benefits than from a typical year spent in a 1-year program. Yoshikawa and colleagues also argue that intensive curricula targeting specific skills (e.g., math, language, literacy) produce larger gains in those areas than

global curricula. Another conclusion is that the benefits of preschool outweigh the costs, but only if those programs are high quality. This conclusion comes from estimates from seminal high-quality programs, such as the Perry Preschool program, that have tracked program participants and their control group counterparts into adulthood and provided data on outcomes that provide savings to society, such as reduced special education placements, grade retention, and arrests. Benefit to cost ratio estimates for such demonstration programs have ranges from 2.5 to 1 to 7 to 1. Estimated benefit to cost ratios for more contemporary universal prekindergarten programs have ranged from 3 to 1 to 5 to 1. In short, "high-quality early childhood education programs are among the most cost-effective educational interventions and are likely to be profitable investments for society as a whole" (Yoshikawa et al., 2013, p. 13). This knowledge, combined with the fact that many state prekindergarten programs fail to meet quality benchmarks, begs the question of how to implement quality programs at scale. One potential policy solution is statewide quality rating and improvement systems (QRISs).

Quality Rating and Improvement Systems (QRISs)

The rapid development of QRISs was propelled by President Barack Obama's Race to the Top Early Learning Challenge, which awarded funds to select states beginning in 2011 to support early learning. A key goal of those awards was to support the creation of QRISs to evaluate and improve programs. QRISs also aim to create more transparency by providing families with information about programs' quality. Although QRISs began as a market-based approach, it has evolved to include increasing levels of professional development opportunities, such as coaching and mentoring. Today, over half of all states have QRISs in place. As QRISs expand, a critical policy issue is whether the tiered ratings typically used by QRISs predict children's learning, a necessary precursor to these systems' ability to improve quality. To date, findings have been

mixed. One study by Terri Sabol and colleagues found that highly rated programs produced children's learning outcomes that looked similar to outcomes produced by low-rated programs. On the other hand, studies from a special issue in *Early Childhood Research Quarterly* devoted to research on QRISs found that ratings predicted growth in literacy skills and some social-emotional outcomes. Given these inconclusive findings, some have cautioned that there are considerable issues with QRISs that need to be addressed before these systems can accomplish the stated goals.

Preschool Through 3rd Grade Continuum

Just as the QRIS movement has attempted to create continuity in quality across ECE programs, another movement—the PreK–3rd movement—has focused on creating more alignment between ECE and K–12 schools. This movement focuses on supporting children's cognitive, social-emotional, and school engagement skills. Scholars such as Rima Shore argue that PreK–3rd is critical in part because high-quality preschool programs alone do not guarantee academic success. Indeed, as the Head Start Impact study showed, early gains are not always sustained into elementary school. Shore suggests that a key to sustaining those gains is carrying forward quality improvements into the early elementary years and creating alignment in organizational structure, goals, and instruction. PreK–3rd scholars Kristie Kauerz and Julia Coffman offer eight essential areas of alignment for PreK–3rd initiatives: cross-sector work, administrator effectiveness, teacher effectiveness, instructional tools, learning environment, data-driven improvement, family engagement, and continuity and pathways.

Chicago Child–Parent Centers

The program most often cited in support of a PreK–3rd approach is Arthur Reynolds's study of the Chicago Child–Parent Centers (CPC). CPC provided education, family, and health services starting with a half-day preschool program for

3- and 4-year-olds followed by half- or full-day kindergarten. After kindergarten, school-age services, including reduced class sizes, the addition of teacher aides, parent-program activities, and coordinated instructional activities, were offered in linked elementary schools until age 9. One evaluation of CPC compared children who continued participating in the first- to third-grade part of the program with those with no participation in the first- to third-grade part of the program to assess the added benefits of the extended childhood intervention into the primary grades. Findings suggested that the extended childhood intervention was related to lower rates of special education and grade retention relative to the less extensive intervention and had the highest performance across outcomes. However, there are two important caveats to this study. First, it should be noted that the extended intervention was not significantly related to educational attainment. Second, it should be noted that eligibility for the extended intervention was not randomly assigned in this evaluation. Instead, researchers compared extended intervention participants with similar children who did not participate in the extended intervention.

PreK–3rd and State Policy

Findings from the CPC study and other studies supporting PreK–3rd have given way to policy changes in many states. One case study that highlights examples of how policy can help create an infrastructure for PreK–3rd is Washington state. In 2005, Washington's governor created a committee to review the state's education system. Three priorities emerged: higher education, K–12, and early learning. This is known as the first time that ECE and K–12 were brought together at a state policy level. Previously, the worlds had operated under different policy, funding, and regulatory systems. This paved the way for several PreK–3rd policy changes in the state, including the creation of a Department of Early Learning, the adoption of voluntary full-day kindergarten, and the development of a 10-year plan to align prekindergarten and K–3 practices.

Conclusion

Over the past two decades, we have seen an unprecedented focus on policies targeting preschool and quality improvement, perhaps because of the large preschool program evaluation literature to draw from that has begun to inform long-standing policy debates. Less attention has been paid to policies for children birth to age 3. Though there are a number of center- and home-based programs serving infants and toddlers, we know much less about what works best for whom during those critical years of development. Still, considering these bodies of evidence together, it is clear that the United States has made significant progress in its investment in ECE as a vehicle for promoting educational success and reducing disparities. As policy makers continue to focus on ECE, perhaps there will be greater investments in policies across the years from birth to age 8 to help ensure that all children are provided with the early educational opportunities that promote healthy development and learning.

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See also Child Care Policy and Practice; Early Childhood Research and Policy Linkages; Early Head Start; Head Start; History of Early Childhood Education Policy; Home Visitation With Mothers and Infants and Children; Home Visits; Quality Rating and Improvement Systems; State Policy Making

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POSTMODERNISM

If postmodernity refers to the social, economic, political, and cultural conditions operating in society, then postmodernism concerns the ideas and philosophies that are used to theorize the conditions of postmodernity. The basic premise is that knowledge claims must be located contextually and reflect the conditions of the contemporary world in all its diversity. Accordingly, postmodernists doubt modernist discourses of truth, reason, certainty, universality, and progress, and reject grand historical narratives of liberation and revolution. Postmodernism aims for more just and democratic societies by providing the tools to analyze and reconstruct modernist systems of organization and thought by investigating difference, hierarchies, power relationships, and contradictions in everyday life. This entry explains some

of the concepts related to postmodernism and discusses how theories have been used to analyze contemporary early childhood education (ECE).

Postmodernism: An Explanation

Depending on the discipline area (e.g., science, art, architecture), postmodernism has various meanings and uses different terms. Debates about the differences between modernism and postmodernism are often reliant on how modernism is conceptualized and whether postmodernism is seen as a reaction to the philosophical assumptions and values associated with the modern period of European history called the Enlightenment. However, the difference between modernism and postmodernism is not a simple matter of chronology or reaction. Rather, different sets of social and cultural practices are operating that are characterized by alternative ways of thinking and doing. This is reflected in how epistemological (what counts as knowledge), ontological (how the nature of reality is understood), axiological (the role of values), methodological, and ethical assumptions about the world have changed and continue to do so.

These different ways of thinking and doing are contested and mark a shift rather than a complete break between modernism and postmodernism. A complete break is not possible given that modernist systems remain in existence. Those who have successfully combined aspects of modernism and postmodernism have created new conceptual spaces and generated new forms of thinking, theorizing, and doing. Four interconnected but different ways of thinking and doing are discussed: questioning universalism or metanarratives, rejecting the Western idea of unified reason, relinquishing realism and representational epistemology, and working across traditional disciplinary boundaries.

Postmodernists question and reject general theories (metanarratives) that provide overarching explanations of the natural or social world within specific knowledge domains such as philosophy and social theory. These metanarratives have been applied as universal laws, claimed as *the* “truth” and used to legitimate political activities

and scientific progress. The idea of scientific and technological progress producing better societies has been shattered by the genocide and destruction of World War II and ongoing atrocities since then, as well as the continuing damage to the planet. Postmodernists prefer little narratives because unlike metanarratives, they are not used as overarching methods of validation, legitimization, and control and because they offer spaces to investigate everyday conditions in the context of society. The focus of social and cultural analysis then is minor knowledges and discourses and the societal conditions in which they operate. Analysis might consider identity, difference, and diversity (e.g., ethnicity, race, class, gender, religion, sexuality).

Rejecting the Western idea of unified reason involves discarding the humanist (modernist) notion of the individual rational subject with a fixed identity that endures over time, and which strives for the achievement of reason in social and political practice. Postmodernists argue for a subject that is decentered, contradictory, and multiple. They maintain there is no core or essential identity (of child, teacher) because identities are in continual processes of change, dissolution, and reconstruction. This means that there is no essentialized way of knowing, being, and “doing” ethnicity, woman, father and that contradictory positions can be adopted depending on the circumstances. Rejecting essentialism and rational thinking is about resisting universal approaches, causality, order, and prediction in favor of multiplicity, uncertainty, and complexity.

Relinquishing realism and representational epistemology is generally known as the crisis of representation. Modernism holds to the idea of an objective natural reality, where reality is independent of human minds, societies, social practices, and methods of investigating and representing reality. Thus modernists contend that what exists can be represented objectively (truthfully) by ideas and works of art. Postmodernists see such representations as constructs produced by science (art, philosophy) and language, rather than objective representations of *the* “truth.” They opt for

multiple truths/ways of seeing because such representations are socially constructed at different times, in different places, and by different people. Rejecting naive realism and representational epistemology (objectivity and one truth) necessitates perspectives that are partial, interpretative, relative, and anti-foundational.

Traditional disciplinary boundaries are being dismantled both within and across disciplines. Differences have been deconstructed to expose links between philosophy and literature, history and philosophy, and the sciences. The aim is, as Steven Best and Douglas Kellner suggest, to remove “fact-value and theory-practice” binaries (p. 258) and for ECE, dichotomies of teaching–learning, work–play, and adult–child. In Western modes of thought, removing distinctions between disciplines and challenging dominant ideas has facilitated different ways of thinking and doing. For instance, identity politics enables perspectives of nondominant groups to be recognized as valid. Postmodern approaches are more democratic, inclusive, and equitable. They can investigate how aspects of identity intersect (e.g., how ethnicity, socioeconomic status, gender, and sexuality work together in constituting identities), and in so doing disregard traditional discipline boundaries to reconstruct complexities involved in everyday lives.

Postmodernism, Postmodernity, and Early Childhood Education

Postmodern theories are political because they have identified modernist discourses that control, classify, and “normalize” children, childhood, families, and early childhood education, and exposed them as regulatory, inequitable, discriminatory, and limiting. These discourses include the all-encompassing metanarratives of child development and standards, and their respective incumbents.

Questioning universalism or metanarratives has been important in challenging the field’s reliance on child development knowledge. Developmental psychology remains the major informant of ECE and is such a taken-for-granted aspect of everyday life that it is almost imperceptible. Challenges to

this dominant modernist discourse are based on the grounds that aspects of child development such as developmentally appropriate practice, child centeredness, and constructivism have been portrayed as applicable to all children everywhere at all times. Similarly, Jean Piaget's stages of development, and aspects of behaviorism and social and cognitive development, have been applied globally as if culture and context are irrelevant and as if there are no alternative ways of understanding young children. The pervasiveness of metanarratives has resurfaced again recently, with Western-based ECE standards adapted for a range of countries in Africa, and scales to measure children's development produced for several countries in East Asia and the Pacific. These strategies seem to be about normalizing and standardizing thinking and doing, rather than realizing claims that standards will make ECE more equitable.

Another powerful but tacit assumption is that child development knowledge is a legitimate basis for curriculum decision making. Educational goals have political and moral origins, but much foundational child development knowledge has biological origins. Child development theories can offer guidance about suitable times to present information to young children, but they are unable to inform educators about what to teach, why, and how. Despite calls to the contrary, this overwhelming focus on child development (as curriculum) has resulted in very little research about the politics of children's learning and the politics of teaching. Contestation about ECE curricula continues, with debates about the place of discipline content in the before-school sector in countries required to implement national curriculum frameworks.

Postmodern theories such as feminist poststructuralism have enabled research about gender and power relations in ECE in terms of how the profession is feminized, men in ECE, and the ways in which gender is a fundamental and inequitable aspect of children's everyday lives, including contexts of learning and teaching. Queer theory has also been drawn on to investigate matters related to men in ECE, as well as children's sex play and sexual identities. Research about ethnicity, race,

class, sexuality, and linguistic diversity of children, families, and teachers has used postcolonial, poststructural, queer, feminist, and feminist poststructural theories. Combinations of theories have also been used to examine intersections among these factors, and studies that incorporate intersectionality are becoming more common. These theories bring issues of power, "othering," and gender to the fore. Research outcomes include equity strategies for classrooms that address marginalization and discrimination based on race, ethnicity, gender, sexuality, and lack of proficiency with the dominant language.

Popular culture has been an enduring theme in ECE research in relation to consumption, media generally, information and communications technologies, and superhero play. Gender has featured in researching popular culture, particularly with regard to superhero play; and feminist, feminist poststructural, and deconstructive approaches have been adopted for this purpose. Commonalities among these investigations include recognition of the multiple identities that children adopt, the significance of power relations in children's everyday lives, the strength of child agency, and the existence of alternatives to stereotypical metanarratives. They also confirm ECE settings as spaces for children to learn about ethical and political practices.

The postmodern approaches discussed earlier focus on discourse and discursive/linguistic practices. Recent postmodern research has adopted posthumanism, where material and affective aspects of children's lives are explored by probing mutual engagement among humans, nonhumans, and matter. Privileging these relationships attends to dimensions previously ignored in Western research, but such relationships are part of the everyday lives of many Indigenous peoples. They have applicability to environmental research, create spaces for decolonization, and open possibilities for engaging children in ways unknown in Western ECE curricula.

Postmodern approaches have also made room for the idea that children have social agency, something that was not recognized in the developmental metanarratives of Piaget, Erik Erikson, and others.

Children and childhood can now be conceptualized as cultural and historical constructions rather than biological commodities on whom research is done. Postmodern theoretical perspectives and new methodological approaches make it possible to move beyond positioning children as research objects in contexts devoid of power relations and which lack any cognizance of inequities. Such research has also moved past imposing adult meanings and revealing what was already in existence.

Methodologies now focus on researching with children rather than on them; listening and hearing children; involving them in research design, data gathering, analysis, and reporting; and adopting data collection approaches that engage children meaningfully. They involve postmodern understandings of knowledge, the nature of reality, ethics, values, and researcher reflexivity. They provide perspectives that are partial and contingent, and which traverse traditional disciplinary boundaries. This is a long way from the child of developmental psychology, seen as a research object and a progressively developing entity without agency to be correctly socialized through surveillance and regulation into a socially acceptable “normal” adult.

The Impact of Postmodernism on Early Childhood Education

Early childhood education is a site of competing discourses where dominant understandings of child development, policy, children, families, learning, and teaching are contested. While dominant discourses retain their power and legitimacy, postmodernism has provided alternative ways of thinking and doing, enabling the identification of groups and practices that have been marginalized and disempowered, as well as making visible some of the politics of how and why this has occurred. Postmodernism offers a wide range of epistemological, ontological, axiological, ethical, and methodological strategies to inform the goal of achieving more socially just and equitable approaches to ECE. While they do not hold all the answers, these tools provide insight into issues that stretch beyond the scope of modernist

approaches and establish ECE settings as important places of identity construction.

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See also Critical Theory; Equity and Equality in Early Childhood; Gender Roles

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POVERTY EFFECTS

Poverty reflects not only lack of material assets, but also a lack of social capital—a sense of belonging, cultural identity, respect, dignity, and access to information and education. Of approximately 2.2 billion children in the world, one billion live in poverty. Poverty among children is not confined to children in the developing world; some economically advanced countries also have high numbers of poor children. Among economically advanced countries, the United States has the second highest percentage of children (22% of all children and 25% of children under 6 are poor; Romania has the highest percentage). Regardless of geography, the effects of poverty generally remain the same: higher mortality rates and detrimental child outcomes. Yet children do not necessarily experience the effects of poverty in the same ways or to the same degree; the effects depend on exposure to risks, individual variation, and exposure to protective factors. This entry examines some of the factors that determine whether poverty will impact a child and if so, to what extent.

In addition, this entry examines the many short- and long-term effects that poverty can have on a child, including but not limited to physical, emotional, and cognitive impacts.

Factors Influencing the Effects of Poverty

The effects of poverty are difficult to determine and occur at both neural and behavioral levels. Moreover, the breadth, depth, and longevity of the effects are not the same for all children. However, it is clear that poverty is harmful to children, affecting both immediate and future functioning negatively across all domains of development and measures of achievement. There are a number of factors in a child's constellation of poverty.

Cumulative Risks

The more risk factors to which a child is exposed, the more the child's development is compromised. Although intensity of risks also matters, aggregate number of risks matters more. For example, being a child soldier even briefly is a high-intensity risk factor, but the number of war trauma incidents experienced predicts mental health problems more closely than categorical exposure. Likewise, a child who loses a parent *and* is exposed to household violence has a higher likelihood of developing post-traumatic stress disorder than does a child who experiences violence but has not lost a parent. Effects of cumulative risk endure over time: A child who experiences early nutritional deprivation is less able to benefit from a high-quality adoptive home later than is a child who never experiences early deprivation or experiences it only briefly. Exposure to cumulative risks also may sensitize a child to later risks; for example, early exposure to hunger renders a child more sensitive to and less able to overcome challenges resulting from later exposure to hunger.

Depth, Duration, and Timing

Depth of poverty—how far below the normal standard of living a family is—reveals how tolerable

or abysmal a child's experience in poverty is. In 2010, the World Bank reported that 400 million children lived in extreme poverty (\$1.25 a day or less); 10% of American children live under half the poverty line, which means they live on less than 50% of what the Census Bureau annually determines to be the federal poverty threshold, commonly called the poverty line. In 2013, the U.S. poverty line was set at \$16,057 for a family with two parents and one child; a child living under half the poverty line lived in a family making approximately \$8,000 or less. The deeper a family's experience of poverty—the poorer it is—the greater the effects of poverty. Duration relates to the longevity of poverty; many families cycle in and out of poverty over many years as they hover around the poverty line. If poverty is chronic, the effects on child outcomes are greater. Timing is also important; the younger children are when they experience poverty, the bigger the effects of poverty because of both environmental effects on brain development and the fact that family life dominates young children's lives. Early experiences with poverty are more difficult to overcome than later experiences.

Dimensions of Poverty

Lack of adequate finances is the most obvious measure of poverty. The average poverty line in developing countries is \$2 per day. In the United States, the Census Bureau determines the poverty line on the basis of annual income and family size; in 2013, that line was set at \$23,624 for a family of four people. Experts who study poverty note that expenses vary greatly by location, so living above that line does not represent economic security. Research indicates that a family needs an income of about twice the poverty line to meet basic needs. For example, a family living in Washington, D.C., needed \$89,600 to be economically secure, while a family living in Tunica County, Mississippi, needed \$50,725. Adequate finances allow families to afford three meals a day with some meat, fresh fruit, and vegetables, two pairs of shoes that fit, an Internet connection, books, games, and other resources.

However, income represents only one dimension of poverty. Other dimensions include access to subsidized social services and inclusion in the social fabric of the community. Consider an asylum-seeking family that receives a monthly stipend to pay for shelter and food but is utterly isolated. The family members may have no access to employment opportunities, health, education, or legal services; they cannot work, go to school, or get medical help. They may be unable to speak the language of the host country, causing further isolation. They also are likely to be without an extended family or other social network that can provide the basic social community families need for well-being. The family may play no role in religious, neighborhood, or civic groups, and may have no friends with whom to socialize. Social dimensions of poverty affect people with disabilities or mental health problems, members of specific ethnic groups, widows, orphans and foster children, homosexual and transgender individuals, immigrants, and other marginalized people who have no social capital.

Individual Differences

Even after accounting for the factors above, one sees marked differences in child outcomes that are not explained by exposure alone but result from individual differences in children. Some children are more resilient than others. There are complex interactions between biological and behavioral characteristics; genes and temperament impact outcomes. Children's inborn sensitivity to environmental context and their constitutional capacities make a difference in how they respond to the stressors they experience in poverty. Children born with higher levels of intelligence and a greater capacity for emotional self-regulation, for instance, fare better in the face of poverty than other children—though poverty will still take its toll.

Interplay With Protective Factors

Resilience also depends on how many positive, protective factors exist to counterbalance the risks associated with poverty. Children exposed to multiple risks are less likely to experience persistent

adverse effects if they also encounter multiple protective influences. Known protective influences include sufficient nutrition (e.g., micronutrients, folate, being breastfed, iron supplements); higher parental education or language stimulation in the home; programs promoting responsive parenting; preschool participation, especially in high-quality programs; social support available to parents; and, for institutionalized children, early adoption. The most important predictor of child outcomes appears to be the extent to which threats can be reduced by a supportive adult who helps a child cope with adversity and restores the child's sense of well-being, both physically and emotionally.

Effects of Poverty on Child Well-Being

The depth and longevity of negative outcomes of poverty depend on a child's unique experience of poverty; outcomes are associated with the constellation of risk factors the child experiences as related to low levels of material assets, social assets, or both. The causes and consequences of poverty during early childhood are usually inseparable and interact in vicious cycles. For example, homelessness, hunger, inadequate parenting, limited access to and low quality of care and education, mental and physical illness, lack of decent medical care, social isolation, and so forth are simultaneously risk factors and outcomes of poverty. Together, these factors in the poverty constellation threaten children's chances of survival and well-being in all developmental domains.

Child Mortality Rates

Poverty greatly reduces children's chances of survival. In 2012, 6.6 million children around the world died before their fifth birthday. The reasons for early death are mainly related to maternal and child health problems. In part because of a poor diet, many poor women give birth preterm. Many women living in poverty in developing countries do not have a skilled birth attendant with them to help deal with asphyxiation, infections, and other birth complications. Pneumonia, diarrhea, malaria, and malnutrition are major causes of death for

children under age 5. Globally, more than 40% of under-age-5 deaths occur in the first month of life, often due to preterm and low birth weight complications.

Effects on Children's Developmental Domains

Poverty jeopardizes all areas of children's development including those discussed in the following sections.

Physical Growth and Health

Children's physical growth and health is at risk in poverty because of challenges to nutritional intake, exposure to illness and disease, and the incidence of violence. The foundation of healthy growth is built on sufficient and nutritious food intake, commonly unavailable to poor families. Although breastfeeding provides optimal nutrition and protective antibodies and is free, infants in poor families are less likely to be breastfed than other infants. In the United States in 2011, 71% of infants in poor families ever breastfed versus 91% of infants in affluent families; at age 6 months, the breastfeeding gap was even larger (38% vs. 68% respectively). In developing countries, approximately 38% of infants exclusively breastfeed. Breastfed children have at least a sixfold chance of survival compared with their nonbreastfed peers. Low breastfeeding rates can be due to the mother's difficulty in spending extended time with her infant when she has to work or lacks information on breastfeeding. Poor families often also lack access to healthy foods that provide adequate levels of protein, vitamins, and nutrients, such as fruit, vegetables, meat, and fish. Poor children are often deficient in iodine, iron, and zinc. In many cases, poor families may have access to inexpensive, highly caloric foods, such as fried chips, that lack nutrients and contribute to obesity, which can co-occur with malnutrition. Approximately 14% of American households were food insecure in 2014, meaning that more than 15 million children were hungry, and 25% of children under 5 (161 million children) worldwide were found stunted in 2013, meaning that chronic malnutrition had caused abnormally low weight, height, and cognitive development.

Being poor is associated with high rates of child illness and disease as well—especially when mothers die, still a significant problem in the developing world. Preventable illnesses are common: Child immunization programs are not yet universal, although great gains have been made in the last decade; malaria affects perhaps as many as 600 million children in 90 countries; HIV remains problematic, and diarrhea is common. Poverty is also linked to unsanitary and unsafe environments in many cases, with families or solitary children living on the streets, in abandoned buildings, at garbage dumps, or in cars or overcrowded rooms. It can mean living in places with exposure to high levels of lead, manganese, and pesticides, and to arsenic, frequently found in well water. Using groundwater for both bathing and cooking, or drinking untreated water, also raises incidences of illness.

Maltreatment as a Threat to Children's Health

Children in poverty are exposed at higher rates than other children to violence, both within their households and in their communities. Rates of physical and sexual abuse and child neglect are difficult to calculate, but the effects are multiple and include child aggression, trauma, brain impairment, physical injury, sexually transmitted diseases, disability, impaired cognition, depression, decreased productivity, and death. Hunger, environmental toxins, illness, and violence can impair not only physical well-being but also other areas of development, contributing to atypical brain development, particularly in the first 3 years of life; learning problems; failure to meet major developmental milestones; impaired motor skills; decreased activity and motivation levels; and psychosocial problems.

Social and Emotional Development

Poverty is typically a source of stigma, isolation, embarrassment, and shame. Children may try to hide the fact that they participate in a free lunch program or stay in a motel or park instead of a home. Societal pressures to conform to middle-class

lifestyles—owning at least two pairs of shoes, having access to healthy meals on a regular basis, clean water for bathing and washing—are impossible to meet for many poor families. The result is not only individual shame, but communal disregard. In almost all countries, poor people, children in particular, are the least likely to have a voice in local events or a presence at community gatherings. They are often marginalized, ignored, left out, or viewed with disdain or disgust.

Children in poverty experience higher than average rates of both internalizing and externalizing behaviors. Internalizing problems common among poor children include a sense of feeling stigmatized, isolated, left out, overlooked, or invisible; embarrassment or shame; anxiety; depression; poor self-esteem; and a sense of vulnerability and dependence. Children in poverty who are hungry, lacking adequate sleep or shelter, or living with excessive stress or insufficient nurturing also show high rates of externalizing behaviors: oppositional behaviors, such as aggression, fighting, defiance, or trouble obeying authority; blaming others for problems; not abiding by rules (e.g., stealing); difficulty getting along with peers; impulsiveness; low self-regulation; attention-deficit/hyperactivity disorder; and conduct disorder. It has been shown that chronic poverty is strongly associated with feelings of anxiety, unhappiness, and dependence, whereas current poverty is strongly associated with acting out, disobedience, and aggression.

Cognition and Academic Achievement

Research shows that the effects of poverty are especially large for cognitive outcomes, even more so than for social and emotional outcomes. Negative outcomes are exacerbated when children experience poverty during early childhood when brain development occurs rapidly and is highly influenced by the environment. The cognitive implications of poverty begin in infancy, and gaps in executive functioning and achievement between poor and other children widen as children age.

When pregnant women fail to get adequate nutrition, their infants tend to be born too early

and with small head size and brain weight. These infants are at risk for learning disabilities, especially if they fail to experience good nutrition and early intervention in the first few years of life. Children who chronically lack adequate nutrition—having too little protein, energy, and nutrients during the earliest years when brains are developing rapidly—are at risk for brain impairment, failure to thrive, and failure to meet foundational developmental milestones. These problems affect 5% to 10% of American children under age 3, and up to half of children in developing countries. Young children who are undernourished are slower than others to develop motor skills, show typical activity levels, and lack the energy and motivation to explore their environment. In turn, they have slower cognitive development and elicit less stimulation and attention from their parents and other caregivers, which further diminishes cognitive development. In 2012, whereas 75% of moderate- and high-income children in the United States were gauged ready for school at age 5, only 48% of low-income children were gauged ready, based on early math and reading skills, learning-related problems, problem behaviors, and physical health.

Children in poverty are less likely to enroll in and stay in school. The highest dropout rates in many developing countries occur in first and second grades. In the United States, although high school graduation rates reached an all-time high in 2014 at 80%, there was a gap of 16 percentage points between low-income students and everyone else. Low-income children are more likely than others to require special education services and remedial services in school, repeat a grade, or be suspended from school, and less likely to graduate on time, attend college, or have the necessary knowledge and skills for higher paying jobs.

Incidence of Disabilities and Developmental Delays

Causes of disabilities and developmental delays are numerous and complicated, and largely influenced by genetics. Yet there are significant environmental influences as well, to which families in

poverty are exposed at high rates. Prenatal influences include insufficient diet, viral infections, toxemia, and exposure to alcohol or drugs. Perinatal influences include premature birth, low birth weight, and unassisted delivery resulting in head injury or lack of oxygen for the newborn, which can contribute to mental retardation, seizures, cerebral palsy, and deafness. Postnatal influences include lack of adequate medical care and early interventions, incomplete immunizations, exposure to toxic environments (e.g., high lead levels, arsenic, pesticides), maternal depression and lack of maternal responsiveness, and nutritional deprivation. None of these factors alone necessarily causes a disability or delay, but they are thought to contribute to the higher incidences of some types of disabilities among children living in poverty because of their relatively higher exposure.

Effects on Access to Services

The poor are most in need of basic services and the least likely to receive them, especially high-quality services. First, 1 in 3 children worldwide does not have a birth certificate, and those who do not are almost always from poor and marginalized families. Besides simple acknowledgment of a child's existence, registration can have practical effects on accessing health care and immunizations, school enrollment, enforcement of child labor laws, ensuring a child's right to nationality, protection against abuse and trafficking, and, later in life, opening a bank account, voting, obtaining credit, or gaining employment. Second, although equitable access to comprehensive, affordable basic health care is endorsed as a basic human right by almost every country, poor children and families frequently lack access to health services. Pregnancy checkups, immunizations, and subsidized medical and dental care are often insufficiently available. Third, poor children do not have access to care and education programs at the same rates as other children. Around half of all children around the world do not have the opportunity to participate in any preprimary education and, in 2015, 57 million primary-school-age children were not enrolled in school.

Children in poor families were four times as likely not to be in school as children in rich families. Barriers include costs (especially for preprimary programs); homelessness or frequent moves, which disrupt enrollment; language and legal barriers for immigrants, asylum seekers, and refugees; and child labor, which keeps children from attending school regularly. Being a girl also remains a barrier in many countries. Missing school is only part of the problem, however; when poor children do attend school, they tend to receive the lowest quality care and education.

Long-Term Effects on Individuals and Societies

Children growing up in poverty are less likely to survive until adulthood than other children and more likely to have a lifetime of greater susceptibility to physical and mental health problems. They are more likely to have cardiovascular disease, hypertension, obesity, diabetes, and strokes. They are more likely to suffer from depression, anxiety disorders, and substance abuse. They are more likely than others to smoke, engage in early sexual activity, drop out of school, be arrested, be a victim of a crime, have a low-paying job, not own a home or a savings account, and not have access to credit. They are also more likely than others to be in unstable or conflict-ridden relationships, have less social support than they need, and show less productivity for their families and society.

It is impossible to capture the human and moral costs of poverty in a monetary sense, but economists do estimate costs to national markets based on lost productivity and required social services. In 2013, Richard J. Coley and Bruce Baker estimated that child poverty cost the U.S. economy an estimated \$500 billion per year or 4% of the GDP.

Protective Factors That Ameliorate Effects of Poverty

Insufficient income alone does not dictate that an individual child will manifest the problems described earlier. Outcomes depend on the context

in which children experience poverty. Young children living in a warm, functional, extended family environment may fare very well; children living in a chaotic, unpredictable environment with unstable or unhealthy primary relationships are likely to fare less well. Parenting plays a critical role, as does public policy.

Parents' Well-Being and Parenting Practices

Caregivers' own well-being and parenting skills have a tremendous impact on child outcomes. This is true regardless of income, but parents living in poverty tend to experience high levels of stress, experience less well-being, have low educational attainment, and demonstrate lower quality parenting skills than parents not living in poverty. When parents (a) use warm, responsive interactions; (b) are stable and consistent; and (c) are not hostile and provide positive, nonviolent discipline, children fare better than with parents who are harsher and inconsistent. In addition, the amount of time parents spend talking to, reading to, engaging with, and otherwise stimulating their children has important effects on cognitive and language development, among other domains. Primary caregivers play a paramount role in protecting children from the consequences of poverty if they can maintain children's physiological and psychological well-being in the face of stressors. Good parenting is more likely to occur when strong social and instrumental supports exist for low-income parents.

Public Policies That Reduce Negative Effects of Poverty

Government policies that aim for high rates of employment—ensuring families have an income—and provide a large number of services reduce the effects of poverty on disadvantaged families. What matters is not a country's absolute level of income but how the money is spent. For example, the Czech Republic and Portugal have equivalent per capita incomes (\$25,000), but Portugal's child deprivation rate of 9% is three times lower than that of the Czech Republic (27%). (The United

States has a per capita income of \$54,000 and a child poverty rate of 22%.) In *Measuring Child Poverty*, a multinational 2012 report card on child poverty, the United Nations Children's Fund (UNICEF) states, "The level of risk incurred is not a function of chance or necessity but of policy and priority" (p. 26). Several approaches working in tandem can reduce the effects of child poverty:

Increasing Family Income. Job creation policies and family income supplements are effective in reducing poverty and its consequences. These include programs that supplement parents' income directly, such as by conditional cash transfer programs, food aid programs, disbursing special revenues (e.g., casino revenues) to vulnerable families, and reimbursements through tax credits. Programs that improve financial literacy, such as microloan and budget-management programs, also improve child well-being by increasing family income.

Decreasing Exposure to Risks. Programs that work to reduce or eliminate risk factors associated with poverty also reduce the effects of poverty. Examples include immunization programs, nutrition programs, and creating and maintaining healthy living environments, such as affordable housing, lead-free environments, reductions in pollution and second-hand smoke, gun control laws, and hygiene and sanitation campaigns. Investments in infrastructure—building health clinics, renovating schools—also have been shown to improve health and well-being in impoverished communities.

Increasing Protective Factors. Because protective factors can ameliorate the risks associated with poverty, investments in child and family programs are socially and economically sound. These include, but are not limited to, comprehensive, affordable medical care; breastfeeding campaigns; food aid programs; paid parental leave policies that promote breastfeeding and bonding; parenting support and education programs; early intervention; universal access to high-quality infant/toddler programs and preschool; fair funding policies that improve public school quality in poor neighborhoods; and adoption for institutionalized children.

In sum, the effects of poverty are pernicious and lifelong in many cases, affecting children's health, social-emotional well-being, and achievement, especially if they are exposed to multiple risk factors; experience deep, chronic, or early-in-life poverty; are biologically and temperamentally vulnerable; and experience too few protective factors. Although policies and programs can offer protective buffers that mitigate the negative consequences of poverty, they require human and financial investments. Economists James Heckman and Dimitriy Masterov stated that such investments are rare in that they have "no equity-efficiency tradeoff" (p. 1), meaning there is no downside to these investments.

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See also At-Risk Families; Family Health; National Center for Children in Poverty; Work and Families

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PREJUDICE

See Development of Prejudice

PREKINDERGARTEN

In general terms, prekindergarten (pre-K) is a publicly funded classroom-based early childhood education program that children, typically 4 years and sometimes 3 years old, attend prior to kindergarten entry. The purpose and intent behind pre-K is to provide children with academic and social learning experiences that prepare them for success in elementary school. In the United States, there are three types of pre-K programs: the federal government's Head Start program, state-based pre-K programs, and city/community-based pre-K programs. While these programs serve more than 2 million children and their families, there are numerous political, financial, curricular, programmatic, instructional, and familial issues affecting them. This entry begins by examining the emergence of pre-K. It then explains the differences between Head Start, state-based pre-K, and city/community-based pre-K programs and provides a brief summary of what each program is designed to do. Lastly, it highlights past, current, and future challenges for these programs.

The Emergence of Pre-K

In the United States, policy makers' interest in pre-K programs, specifically Head Start, emerged

in the 1960s as a part of President Lyndon Johnson's War on Poverty. At that time, researchers and policy makers framed this program as a vehicle that could break what they termed the cycle of poverty. These stakeholder groups identified the root cause of academic failure, which leads to economic failure, being children's home environments. The goal was for this comprehensive early education program to break this cycle of poverty by giving low-income children a head start for elementary school by teaching them the skills and knowledge needed to succeed in kindergarten.

State-based pre-K programs emerged after it became apparent the federal government's Head Start programs were unable to serve all eligible children. The evolution and expansion of these state-based programs was slow. As reported in *The State of Preschool 2014: State Preschool Yearbook*, only 10 states offered pre-K by 1980, 28 states by 1991, and still now, only 40 of the 50 states offer some form of pre-K program. Like Head Start, most of these state-based programs are intervention programs serving particular populations of children. Lastly, many cities and communities across the United States currently grant access or are in the process of offering access to pre-K to all 4-year-olds who live within their communities.

Federal Government and Head Start

Project Head Start emerged from the Economic Opportunity Act and the Elementary and Secondary Education Act (ESEA) as part of the Johnson Administration's War on Poverty in 1965. What began as an 8-week summer program designed to prepare low-income children for kindergarten entry is now a dual-generation program serving more than 800,000 children between the ages of 3 and 5 years and their families across the United States. The Office of Head Start operates out of the Department of Health and Human Services (HHS). The HHS directly funds more than 1,600 local grantees (organizations, local government agencies, or school districts) to provide Head Start programs that promote children's school readiness by enhancing their social and

cognitive development. On average, the federal government spends more than \$7,500 per child and provides children and their families with educational, health, nutritional, social, and other services designed to meet their local needs as well as the Head Start Program Performance Standards. These standards detail such requirements as what type of learning environment each program is to offer, including physical space, curricula, assessment and transition requirements, the type of communication and partnerships programs are to establish with families, and criteria for hiring teachers and staff.

State-Based Pre-K Programs

Similar to Head Start, the vast majority of state-based systems of pre-K are intervention programs for children who policy makers deemed “at risk” for school failure—be it poverty, involved in foster care, homeless, or English language learners, for example. Because the intent behind these child-focused programs is almost exclusively on ensuring all children enter elementary school ready to succeed, all state-based programs have early learning standards that children are to attain by the end of pre-K. Many states also have academic achievement measures children must take to measure whether they have acquired the knowledge and skills outlined in the early learning standards. Across the states, issues of teacher certification, where and who offers pre-K (e.g., the public schools and/or community-based programs), and how long programs last (half day vs. full day) varies significantly.

In terms of participation in these state-based pre-K programs, as reported in *The State of Preschool 2014: State Preschool Yearbook*, as of 2014, close to 30% (more than 1 million) of the nation’s 4-year-olds and close to 5% (200,000) of 3-year-olds participated in a state-based pre-K program. State governments spend significantly less on pre-K programs (\$4,100 per child) than traditional kindergarten through Grade 12 (K–12) programs (\$12,400 per child) or the federal government’s Head Start program. Because of this, the quality of services being offered to children is

an important issue surrounding the establishment and funding of these programs. For instance, the National Institute of Early Education Research (NIEER) rates each state-based pre-K program using 10 criteria: comprehensive early learning standards, teacher degree requirement, specialized training in pre-K for teachers, assistant teachers having a CDA or equivalent, teachers taking at least 15 hours of in-service training a year, a class size lower than 20 students to 1 teacher, a staff-to-child ratio of 1 to 10, health/support screenings, meals provided to children, and state monitoring of programs. In 2014, only five states met all 10 criteria, and over 40% of the nation’s children attended pre-K programs that met less than half of these benchmarks.

City/Community-Based Pre-K Programs

Since most states do not offer or fund universal pre-K programs, many cities and communities offer (e.g., New York City and San Antonio, Texas) or are in the process of working toward (e.g., Chicago and Los Angeles) universal pre-K programs that allow all 4-year-olds who live in that city the opportunity to attend these programs free of charge. These universal programs often draw from local, state, and federal funds to offer all children access to either a half-day or full-day pre-K program. Similar to the state-based pre-K programs, the intent behind these child-focused pre-K programs is almost exclusively on ensuring that each child is academically and socially prepared to succeed in elementary school.

Past, Present, and Future Issues

Political and Fiscal Issues

This establishment of government-funded pre-K continues to be politically controversial. While Head Start, state-based, and city/community-based pre-K programs continue to grow in size and reach, their livelihood is dependent upon the financial support of policy makers. An example of the political tensions that exist over publicly funded pre-K can be found in the Nixon administration’s responses to Johnson’s *Great Society* education policies. For

instance, Nixon created the National Institute of Education (NIE) to investigate the return that society received for its investment in education. The work of NIE and studies such as the Westinghouse Learning House's evaluation of Head Start in 1969, which suggested that the IQs of students in the program quickly faded, raised enough concerns over the effectiveness of these government-funded programs that it gave Nixon the political cover needed to veto the Comprehensive Child Development Act of 1971. The Act was to expand the federal government's funding of child care and education while creating a framework for child services.

Researchers responded to these critiques of whether Head Start improved children's learning by arguing that while increases in IQ might not be sustainable, students who participated in such programs were more successful academically and socially as they continued through school than those students who did not receive these services. These longitudinal studies, which examined a range of early childhood programs outside of Head Start, spawned the investment argument. This argument has slightly shifted the premise for funding pre-K. Rather than breaking the cycle of poverty for others, the original intent behind Head Start, emphasis is now on funding pre-K to save taxpayers money.

By positioning pre-K through its ability to save taxpayers money, it can limit policy makers' focus to providing pre-K only to those children who offer the best return on their and taxpayers' financial investment. In addition to taking a targeted rather than universal approach to pre-K, the investment argument makes these programs dependent upon their ability to improve student achievement at a reasonable cost; failure to do so may lead to the termination of programs or reduced political and/or fiscal support. Lastly, because pre-K is typically framed as a targeted intervention program, its funding is often cut when the federal, state, and/or local governments face budget shortfalls.

Lastly, as federal, state, and local governments expand access for children to pre-K programs, these policies can negatively impact private and

nonprofit early childhood centers by taking away significant portions of their clientele.

Issues of Standardization, Academic Achievement, and Accountability

Investing in pre-K programs to improve young children's academic achievement in K–12 education systems, which includes closing the achievement gap, led to the standardization of these programs, meaning that all children who attend pre-K are to obtain and demonstrate that they have learned a specific set of knowledge and skills by the time they leave these programs. This focus on early learning standards and children's academic achievement appears to replace what is known about how children develop and learn with what they are to know and do.

Many within early childhood education worry that these policies and sanctioned practices redefine the purpose of pre-K. Other concerns about the standardization of pre-K include the diminishing role of play-based learning in the classroom and the negative effect of teacher-directed learning activities on children's enthusiasm and curiosity as well as the teachers themselves who are required to make improper use of standardized assessments to measure children's academic achievement. In sum, mandating specific academic and social outcomes for children enrolled in pre-K narrows the broad developmental focus of early childhood education and reframes children's development and learning as uniform and standardized rather than uneven and personalized.

Program and Teacher Quality

Another set of challenges that pre-K programs at the federal, state, and local level face relate to ensuring that pre-K programs and teachers working in them are of high quality. Empirical research shows that quality of programs and well-prepared teachers improve the learning and development outcomes of pre-K.

In terms of program quality, many states are implementing quality rating and improvement

systems (QRISs) for pre-K and other early childhood education services. QRISs are standardized, statewide rating systems designed to assess, rank, and improve the quality of early childhood education and care programs using structural, programmatic, and instructional standards and student achievement outcomes.

Teacher quality encompasses the preparation of teachers as well as the types of interactions they have with children in their pre-K programs. Many states either require or are working toward requiring all pre-K teachers to be state certified. Head Start is also working toward this goal. A primary issue with certification is cost. If teachers are not compensated at the same level as their elementary and secondary peers, they may leave pre-K for other employment opportunities. Lastly, research demonstrates the type and intensity of interactions teachers have with pre-K students can positively affect their learning and development. Because of this, many states require increased teacher training and assess teachers on a regular basis to measure the quality of their interactions with students.

The Role of Families

Since the implementation of Head Start, the role of families and government in educating pre-kindergarteners has become a contentious issue. In general, there continues to be debate across the United States about whether the government, at any level, should play a role in the development and education of young children. Additionally, framing pre-K as an investment that saves taxpayers money by educating specific populations of children appears to blame families for such things as being poor. The investment argument also deemphasizes the role of families in the early education process, and instead, it contends that experts in ECE can design and implement programs that provide children with specific learning experiences that will prepare them for success in public schooling and later life. Lastly, the issue of offering families targeted and/or universal access to pre-K continues to play a role in the debates

around governmental support for families in general, maternal employment specifically, and other issues such as paid family leave.

Conclusion

Pre-K in the United States is an early education program designed to prepare children for success in elementary school. Because access to these programs is not seen as a right for children or their families, pre-K will continue to face a range of political, financial, curricular, programmatic, instructional, and familial issues. Nevertheless, the persistence of the achievement gap, the stagnation in students' level of academic achievement in the nation's public schools, and the economic realities faced by families who need for all adults to be employed outside the home will continue to make it an attractive policy solution to policy makers at all levels of government.

Christopher P. Brown

See also Head Start; Kindergarten; Prekindergarten Program Evaluation; Readiness Assessments

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Websites

- Head Start, an office of the Administration for Children and Families Early Childhood Learning and Knowledge Center: <http://eclkc.ohs.acf.hhs.gov/hslc>
- National Institute of Early Education Research (NIEER): <http://nieer.org>

PREKINDERGARTEN PROGRAM EVALUATION

Prekindergarten programs, which require a large investment by state, local, and federal agencies, have been growing rapidly in recent decades. This growth has precipitated a great deal of interest in program effectiveness, and much research has been conducted to determine what types of benefits prekindergarten programs bring and how long those benefits can be expected to last. Comprehensive evaluations of prekindergarten programs take into account the costs of the program, the quality of services that the program delivers, and the characteristics of different programs. This entry describes evaluations of prekindergarten programs, including the types of information they provide and common research designs.

Types of Information Provided by Evaluations

One of the primary goals of prekindergarten programs is to prepare students for kindergarten. Impetus for the increase in public prekindergarten programs was provided in part by evidence that many children entering kindergarten were not adequately prepared. Therefore, one of the most important types of information provided by prekindergarten evaluation programs is outcome data on children immediately after the program or at entry into kindergarten. This information would ideally include data on different areas of children's skills such as social skills, early literacy, and math skills. Child outcome data are most helpful when they can be compared with outcome data prior to the children's entry into the prekindergarten program to provide baseline information on the skills of children entering the program and information about the trajectory of growth for those children during or immediately after completing prekindergarten.

In addition to short-term outcomes, there is much interest in the long-term outcomes for children who participate in prekindergarten programs.

If children are able to benefit from these programs only during and immediately after the programs, the investment in such programs might not be justified. Therefore, evaluations of prekindergarten programs are not limited to the prekindergarten year or to the beginning of kindergarten. Evaluations can examine children's outcomes through their school years and even into adulthood, using measures such as grade repetition, special education placement, degree completion, marriage rates, and mental and physical health factors, in addition to test scores. Outcome scores can be compared with national norms or scores from control groups, as discussed below.

Comprehensive evaluations of prekindergarten programs are not limited to participant outcomes, in either the short or the long term. Evaluations can also provide important information to program providers about the adherence to program standards, quality of the services provided to the participants including interactions between teachers and children, and the characteristics of the participating sites, classrooms, teachers, and children. These factors can be important for program monitoring purposes and can also provide information on weakness or strengths of a particular program that could then potentially be addressed by the program providers individually or be addressed through policy changes.

Evaluation Designs Using Control Groups

Randomized controlled trials are often considered the gold standard of research. In the context of prekindergarten evaluation studies, a randomized controlled trial is conducted by randomly assigning children either to receive the prekindergarten program (the treatment group) or to participate in a control group. The skills of both groups can then be measured at variable intervals during and after the program, even many years after the end of the prekindergarten program. The relation of program quality to participants' outcomes and trajectories of growth over time can also be investigated using this study design. Because of the random assignment of the participants in this type

of study, a randomized controlled trial can provide the ability to make causal inferences about the effects of prekindergarten programs, that is, to be confident that the program directly caused the effects measured in the evaluation study.

Although the control, certainty, and ability to make causal conclusions afforded by randomized controlled trials are desirable, they are not always feasible. Difficulties implementing such studies include the necessity to deny the prekindergarten program to children assigned to be in the control group (without regard to the need of the individual children and ensuring that children in this group do not receive an equivalent prekindergarten experience through other means) and the necessity of having a large enough pool of potential participants to ensure appropriate sizes in both the treatment and control groups. In cases where randomized controlled trials are not feasible, researchers may utilize other quasi-experimental designs to answer questions about the effectiveness of the prekindergarten program being evaluated.

The most powerful type of quasi-experimental research design is regression discontinuity design, which has been shown to provide the strongest evidence for treatment effects for nonexperimental approaches. When applied to prekindergarten evaluations, this design utilizes a natural experiment based on the age requirement for kindergarten to compare two groups of children: the untreated group (children entering the prekindergarten program at the time of the study who are not yet eligible for kindergarten) and the treated group (children who completed the prekindergarten program and are entering kindergarten at the time of the study). Because both groups of children qualified and were selected to participate in the prekindergarten program, the two groups are equivalent on many important characteristics; the only difference is whether the child's birth date falls before or after the cutoff for kindergarten eligibility. The skills of the participating children are then plotted against the distance of their birthdates from the birth date cutoff (up to 180 days before the cutoff for the untreated group and up to 180 days after the cutoff for the treated group). A jump, or discontinuity, at

the point of the birth date cutoff indicates the effect of the prekindergarten program.

Jennifer M. Schaaf

See also Abecedarian Project; Accountability in Early Care and Education; HighScope Perry Preschool Study; Policy and Early Childhood Education; Prekindergarten; Program Evaluation

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PRENATAL MENTAL HEALTH

Based on early development indices, one-quarter of children enter school with some form of developmental delay (Hertzman, 2009). While many influences impact a child's development, research from the Avon Longitudinal Study of Parents and Children (ALSPAC) in the United Kingdom suggests that among children with suboptimal development, the main contributing factor in 10% to 15% of these children is poor prenatal maternal mental health (Glover, 2014). Thus, when considering the benefits of early intervention and possible approaches to prevention of child development problems, strong evidence from more than two decades of research studying children and their mothers from pregnancy to adolescence indicates that improving maternal prenatal mental health is

likely to improve child health and development. While there has been little research to date on whether intervention aimed at prenatal maternal mental health improves child outcomes (Kingston et al., 2014; O'Connor, Monk, & Fitelson, 2014), recent research provides promising evidence that improving mental health in pregnancy improves infant development (Milgrom et al., 2015).

Mechanisms Linking Prenatal Psychological Distress to Child Outcomes

A long history of evidence from animal studies shows clear evidence of a link between prenatal stress and poor offspring outcomes (O'Connor et al., 2014; Weinstock, 2008). Whether similar conclusions could be drawn in humans in terms of whether prenatal stress could have an adverse effect on child outcomes remained a subject of debate for many years. In 1995, physician and epidemiologist David Barker introduced the fetal origins hypothesis to explain why adults who had been born small for gestational age had higher risk of certain diseases, such as heart disease. He proposed that adverse intrauterine influences could play a role in the development of chronic disease, and this prompted a paradigm shift that acknowledged that neurobiological development is influenced by prenatal exposures (O'Connor et al., 2014). Over the past 2 decades a large body of evidence has developed providing empirical support for the association between intrauterine influences and a large array of suboptimal child and adult health outcomes, including heart disease, diabetes, mental illness, and developmental delays (Barker & Thornburg, 2013). With respect to child outcomes, some evidence now exists for the effect of stress- and anxiety-related increases in glucocorticoids on the developing fetal brain, including DNA methylation that influences gene expression (Moisiadis & Matthews, 2014). Indeed, a 2014 study by Lei Cao-Lei and colleagues was the first to show that prenatal stress has a lasting "DNA methylation signature" (Cao-Lei et al., 2014). In this study, 8-year-old

children of women who experienced stress during the major ice storm in Quebec in 1998 had genome changes in the form of DNA methylation in the regions related to immune function, compared with children whose mothers did not experience that stress. These changes to the genome may be responsible for long-term neurological and developmental outcomes in children of mothers who experience stress or anxiety during pregnancy. A 2015 study by Karen Lillycrop and colleagues using data from the longitudinal United Kingdom Southampton Women's Survey showed evidence of this, demonstrating that DNA methylation at birth was related to child neuropsychological outcomes (IQ and executive memory function) in 4- and 7-year-old children. This study provides "support for a role of epigenetic processes in mediating the long-term consequences of early life environment on cognitive development" (Lillycrop et al., 2015, p. 1).

Impact of Prenatal Psychological Distress on Child Development

Infant Development

In 2012, a systematic review of more than two decades of research from longitudinal studies by Dawn Kingston and colleagues concluded that there is some evidence that prenatal psychological distress (defined as any form of mental health problem during pregnancy) is associated with suboptimal cognitive, behavioral, and psychomotor development in infants from birth to 12 months of age (Kingston et al., 2012). In this review, stress and anxiety were the main forms of psychological distress related to poor infant outcomes. Although prevalence rates were rarely reported by individual studies in this review, infants of mothers with anxiety during pregnancy had rates of psychomotor (30%) and cognitive delay (25%) that were two to three times greater than infants of nonanxious mothers (psychomotor, 14%; cognitive, 7%). Interestingly, no studies assessed the effect of prenatal distress on socio-emotional development.

Toddler Development

A recent systematic review compiled evidence on the association between prenatal and postnatal psychological distress and cognitive development in children ages 13 to 36 months (Kingston, 2015). Among eight studies included in the review that focused on prenatal distress, seven studies showed a significant, medium-size effect of prenatal distress on poor cognitive development. In the single study that reported prevalence rates, 22% of children born to mothers with prenatal anxiety had cognitive delay compared with 6% of those whose mothers were without prenatal anxiety (Brouwers, van Baar, & Pop, 2001). A comprehensive review of 25 studies examining the influence of prenatal psychological distress on several domains of toddler development demonstrated a significant relationship between prenatal distress and development and behavior, with limited evidence of socioemotional and psychomotor development (Kingston, 2011).

School-Age Child Development

Looking at specific forms of behavioral problems, a study based on the prominent ALSPAC in the United Kingdom showed that rates of hyperactivity and conduct problems were over 85% and 62% (respectively) greater in children whose mothers experienced prenatal anxiety in the third trimester compared with those who did not (O'Connor et al., 2003). These findings were found after controlling for the influence of postnatal depression and anxiety indicating that prenatal distress has a unique role to play that is distinctive from postpartum mental health influences. While the evidence is limited in that it is based on only two studies, research using data from two prominent birth cohorts—the ALSPAC (O'Connor et al., 2003) and the Raine cohort (Robinson et al., 2008)—found small- and medium-size effects of prenatal stress and anxiety on socioemotional development in school-age children.

Do Sensitive Periods Exist?

Research to date cannot provide a definitive answer about whether children of mothers who

experience stress, depression, or anxiety in a particular trimester are more at risk for poor outcomes compared with a similar exposure in another trimester (Kingston, 2011; Kingston et al., 2012; O'Connor et al., 2014). While it would be beneficial to understand whether such “sensitive periods” for prenatal mental illness exist, in reality, epidemiologic studies show that results from prenatal mental health problems are stable. That is, their severity tends to be consistent across the prenatal and postnatal period (except for women with high severity, who tend to worsen over time if no help is afforded them) (Giallo et al., 2015; Woolhouse, Gartland, Mensah, & Brown, 2015), and women with prenatal and postnatal distress are more likely to have also experienced symptoms pre-pregnancy (Milgrom et al., 2008). This evidence suggests that a focus on women's mental health pre-pregnancy is the best approach to optimizing child outcomes.

Impact of Chronic Mental Health Problems

There is a paucity of research examining whether chronic mental health symptoms have a greater impact on child outcomes compared with symptoms that are experienced only briefly. While one study demonstrated that children born to women with chronic depression (e.g., beginning in pregnancy and extending into the postnatal period) were at greater risk for behavior problems and lower vocabulary scores (Brennan et al., 2000) compared with children whose mothers experienced brief bouts of depression, data from the ALSPAC study did not find that children were more affected with emotional/behavioral problems if their mothers had both prenatal anxiety and postnatal depression (O'Connor et al., 2002). However, substantial evidence published independently from two prominent birth cohorts—the Longitudinal Study of Australian Children and the EDEN birth cohort—suggests that persistent depressive symptoms of subclinical, intermediate, or high severity are associated with behavioral and socioemotional problems in 4- and 5-year-old children, compared with children whose mothers did not have persistent symptoms.

Clinical and Subclinical Severity

Early research suggested that the effects of prenatal stress, depression, and anxiety on child development outcomes and mental health may be limited to women with severe symptoms. However, recent studies have found a “dose response effect,” where the greater the severity of the symptoms, the greater the risk of poor developmental outcomes (O'Connor et al., 2014). This was perhaps most strikingly illustrated in a recent longitudinal cohort study from Australia that showed that rates of socioemotional and behavioral problems in 4-year-old children were 7% in women with no prenatal depression, 19% in those with subclinical depression, and 24% in those with the highest severity of depression (Giallo et al., 2015). As noted by Thomas O'Connor and colleagues (2014), this evidence of an adverse effect of even subclinical depression or anxiety highlights the need to detect and treat mental health problems during pregnancy and broadens the public health concern beyond women with clinically diagnosed mental health problems.

Conclusion

A growing body of evidence suggests a clear association between prenatal maternal mental health and suboptimal child outcomes. Despite recommendations from the National Institute for Health and Care Excellence in the United Kingdom and the American College of Obstetricians and Gynecologists, among others, mental health is not assessed or treated as a part of routine prenatal care. Indeed, current prenatal care tends to focus on physical health (e.g., healthy diet and weight gain) and preparation for delivery, with a notable absence of discussion surrounding mental health (O'Connor et al., 2014). However, convincing evidence linking prenatal maternal distress to poor child outcomes substantiates the need for mental health screening and treatment to be offered routinely to all pregnant women.

Dawn Kingston

See also Attachment and Stress; Determinants of Child Development; Early Childhood Research and Policy Linkages; Effective Advocacy Practices; Emotional Development; Psychosocial Theory

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PREPARING EARLY CHILDHOOD TEACHERS TO IMPLEMENT DIGITAL MEDIA

Living and learning in the digital age raises important questions about how early childhood teachers are prepared, and how prepared teacher educators and professional development providers are, to integrate digital technology and media into teaching practices and teacher preparation. This entry explores the connection between the foundational knowledge and experiences early childhood educators gain through traditional preservice and in-service training and what else they need to know and be able to do in the digital age. Implications for digital age teacher preparation and teacher educators are identified and explored.

Children are born ready to learn, and the experiences they have in early childhood influence their development and learning across the life span. Early childhood educators, in formal and informal settings, share a responsibility with parents and families for the healthy growth, development, and learning of young children.

Traditionally, the preparation of early childhood educators has been based on what is known about how children grow, develop, and learn. Teacher preparation focuses on the core knowledge educators need to know, the practical experiences they need to have, and the competencies they must demonstrate for providing high-quality early care and education that promotes children's health, development, and learning.

Setting the Context for Teacher Preparation in the Digital Age

Digital technologies including smartphones, mobile devices, multitouch screens, and tablets have quickly become ubiquitous at home and in the workplace. These powerful tools have changed the ways in which adults connect, interact, communicate, collaborate, access information, learn,

and create. These same tools are already in the competent hands of very young children.

Teaching and learning in the digital age means that all adults who work with or on behalf of young children, parents, and families need to understand the if, when, where, how, and why of effective technology integration. This includes educators and the teacher educators, professional development providers, trainers, and program administrators who prepare them.

Effective digital age teacher preparation needs to include thoughtful integration of technology tools and methods into preservice, in-service, professional development, and continuing education. Six ways that educators can use technology personally and professionally need to be included in teacher preparation programs:

1. Tools for personal use, everyday living, and connecting with family and friends
2. Tools and methods for teacher preparation including online learning, webinars, online resources, and communities of practice
3. Tools for classroom teachers and teaching including documentation, assessment, curriculum planning, record keeping, and more
4. Tools to use with children for teaching and learning
5. Tools for strengthening the home-school connection and enhancing family engagement
6. Tools for professional communicating, collaborating, and connecting

Early childhood educators in preservice and professional development need in-depth, hands-on technology experiences that build competency and confidence. Access to the latest technology and interactive media for adult learning and for supporting health, development, and learning of young children and opportunities to be playful and create with these tools are needed so that young children can experience technology and digital media as playful, open-ended, and powerful tools for learning and creating.

What Digital Age Educators Need to Know and Be Able to Do

Early childhood educators have always needed positive attitudes toward children, parents, and families, core knowledge, essential experiences, and competencies leading to fluency in the principles and practices that support young children's health, development, and learning—Early Childhood Literacy. In the digital age, educators also need positive attitudes, knowledge, experiences, and skills leading to fluency with technology and digital media as tools for teaching and learning—Digital Media Literacy.

Foundational knowledge of child development theory, early learning, and the influence of family, culture, language, and community guide the selection, use, integration, and evaluation of appropriate technology tools and digital media for young children, just as it supports the choices educators make every day about all other tools for learning in the classroom.

Early childhood educators are not unprepared to integrate technology and to practice the appropriate and intentional use of technology. Educators should consider the integration of technology and digital media into early childhood classrooms and settings in the context of what they already know and apply every day to decisions about what tool is most appropriate for an individual child, at a particular time, for a particular learning goal.

Teachers need to begin with what they know about child development theory and how young children learn. While the most influential child development theories and theorists predate the digital age, they provide foundational knowledge for the selection, use, and integration of technology with young children today. Teachers can look to the pedagogical and theoretical approaches of Maria Montessori, Jean Piaget, Erik Erikson, Lev Vygotsky, and others for guidance in the design and development of curriculum, activities, and interactions that integrate technology and support children's health, development, and learning.

In addition to these theoretical underpinnings, educators should turn to the Developmentally

Appropriate Practices framework from the National Association for the Education of Young Children (NAEYC) and to the NAEYC and Fred Rogers Center joint position statement on *Technology and Interactive Media as Tools in Early Childhood Programs Serving Children From Birth Through Age 8*. The technology position statement, grounded in developmentally appropriate practice and more than 40 years of research on children's television viewing, defines how appropriate and intentional use of technology and media with young children can support learning and development.

Educators who combine core knowledge in child development theory, developmentally appropriate practices, a deep understanding of diversity and cultural competence, and an appreciation of the influence of family, culture, community, and social contexts have a solid framework for making mindful choices about technology with young children. As key decision makers in integrating technology and media, educators need to connect child development, early learning, and digital media.

Early childhood educators are not unprepared, but will remain ill prepared or underprepared as analog adults in the digital world of young children without teacher preparation and professional development experiences that connect what they know with what is known about effective, appropriate, and intentional selection, use, and integration of technology tools for learning in the early years.

What Is Known and Why It Matters to Early Childhood Educators

The body of research and literature around children's television use has developed over more than 40 years. What has been learned about young children and screen media informs a digital age approach to teaching and teacher preparation by identifying what is known and why it matters to inform classroom practices that integrate technology tools into teaching and learning. More research on new digital tools, multitouch screens, and interactive media is needed to better understand the impact of these technologies on children's health, development, and learning. However, since these

tools are already in the hands of young children, it is important to understand what is known and what matters, including the following:

- digital media literacy,
- concerns about technology use,
- early childhood “essentials,”
- families,
- relationships,
- joint engagement, and
- content and context.

Digital media literacy matters to adults who work with or on behalf of young children and is essential for 21st century early childhood educators and for the teacher educators who prepare them.

Concerns about technology use and very young children need to be thoughtfully considered including the amount and kinds of screen time, passive media use, exposure to inappropriate content and commercial messages, the displacement of developmentally essential materials and activities, social isolation, interrupted adult–child relationships, less outdoor time and physical activity, childhood obesity, sleep disruptions, and other health concerns.

The goal of technology integration in classrooms and early childhood settings is not to displace or replace essential activities and experiences that support creativity, curiosity, open-ended exploration, unstructured play, hands-on materials, outdoor play, and nature within a whole-child approach. When technology is integrated appropriately and intentionally, the goal is to enhance and expand essential activities and experiences and to provide universal access to powerful tools for learning in new ways and for all children.

Early childhood educators have long understood that families matter. In the digital age, how families access and use media in the home also matters. How children use media at home reflects their interests and needs and is strongly influenced by family needs, backgrounds, languages, cultures, communities, attitudes toward technology, access to technology and a broadband connection, the media habits of the adults in the home, and the family media ecology.

Early childhood educators know that young children learn best in the context of interactions and relationships with tuned-in, responsive, and caring adults at home and in early childhood settings. Appropriate and intentional use of technology to strengthen relationships, encourage prosocial behaviors, and promote social-emotional development supports children’s development and learning. Educators know that adult–child interactions are key to language learning. In the digital age, opportunities for joint engagement with media provide new opportunities for using media together to deepen learning and strengthen relationships.

The quality of content and the context of technology and media use in early childhood settings also matter. With quality content, “what children watch” on screens is more important than “how much” or “how long” they watch. Digital age educators and parents need a new way of defining screen time that takes into account the affordances of the device, active learning, the interactive media, and the appropriateness of the content and learning opportunities for the child.

Where, when, how, and with whom are important issues to consider in the context of technology and media use in the classroom or other early childhood setting. Early childhood educators know that children learn best in active environments when they are engaged in meaningful, interactive, and social contexts, and the same considerations need to inform instructional practices and technology use.

Understanding what is known and why it matters for teacher preparation and for teaching practices in early childhood settings leads to implications for digital-age preservice and in-service teacher preparation and professional development.

A 21st-Century Context for Teacher Preparation

Digital media literacy is an essential literacy for early childhood educators for 21st-century teaching and learning. Teacher educators need to integrate digital media literacy across the continuum of teacher preparation and professional development

and provide early childhood educators with hands-on opportunities for playful exploration, to use technology to learn how best to use technology, and to learn with and from other educators in “tech playgroups” or in online communities.

Early childhood teachers and teacher educators need the following:

- technology knowledge, skills, and experiences;
- digital media literacy in the context of early childhood teaching;
- tools and methods for teaching with technology;
- hands-on opportunities to play with technology;
- examples of effective technology integration in early childhood;
- ongoing professional development;
- communities of practice and interest; and
- research about effective practices.

Making connections between theory, guidelines, and best practices ensures that technology choices are appropriate and effective. Taking time to play and explore digital tools enhances appropriate and intentional use of technology to support children’s learning and development. Gaining digital media literacy enhances educators’ attitudes, knowledge, experiences, and competencies to create empowering and valuable learning experiences for young children.

The digital age is here. Digital media literacy is an essential new literacy for those who teach the teachers, and those who teach young children. Early childhood educators in the 21st century have a very real responsibility to gain the technology knowledge, experiences, and competencies needed in their work and to enhance their interactions with parents and young children.

These new tools hold great promise for teaching and learning, but only when they are used effectively, appropriately, and intentionally. The knowledge and experience needed to select, use, integrate, and evaluate technology and interactive media as tools in early childhood settings is at the heart of what it means to be a contemporary educator and how best to prepare teachers in the digital age.

Chip Donohue

See also Assistive Technology in Early Intervention; Developmentally Appropriate Practice; Early Childhood Teacher Education; Media Influences on Play; Technology and Play; Technology in Early Childhood Education

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PRESCHOOL

Early childhood is an important developmental period for children as they learn and acquire skills that will eventually aid them in school. It is also a time that marks great variability in the children’s experiences because some children stay

at home with their families, others attend private child care programs, and some attend public preschool programs such as state-funded programs or the federally funded Head Start. Across these sites, children's experiences often correspond simply because of their similarity in ages and general developmental modicums. However, depending upon the means through which they are educated on a daily basis, children do have unique experiences. This entry focuses specifically on *preschool*, examining how the term has come to be defined, the history of preschool programs, and what they offer children in the 21st century.

The History of Preschool Programs

Preschool can be defined as the period of time in a child's life that precedes attendance at elementary school. In the current era, preschool tends to refer not only to a developmental period for children but also to an educational establishment that offers early childhood education. It is also sometimes referred to as nursery school, prekindergarten (pre-K), Grade 0, or preprimary school. In various parts of the world outside of the United States, the term *kindergarten* has also been used to describe educational establishments prior to elementary school. One could argue that the preschool period begins at birth, but for the purposes of this entry, *preschool* refers to an educational establishment for children ages 3 to 5, just prior to elementary school.

Preschool programs began as what is more readily known as child care, which is a center-based program primarily focused on a safe and healthy environment where children can socialize with one another. Preschool programs resemble the formerly popular child care programs in that they provide a safe and nurturing learning space for children prior to the formal schooling period. However, they have become more focused on academics over time, often requiring high-quality standards and stressing children's school readiness and educational attainment. The discourse surrounding preschool in the United States has come to be

dominated by terms such as *high quality*, *academic achievement*, and *school readiness*.

Research on the effects of preschool on children's development dates back to the 1930s and has advanced steadily with the uprising of landmark studies that began in the 1960s. Not coincidentally, these landmark studies coincided with increased numbers of women in the labor force in the late 1960s, and therefore the expanded interest in children spending time in formal settings outside of their homes. To date, an extensive body of literature finds that high-quality preschool programs for children at 3 and 4 years of age positively impact their cognitive and noncognitive development in both the short and long terms. Further, benefit-cost studies that take into account education, crime, welfare, and labor market outcomes have found large benefits for the economy attributable to high-quality preschool programs.

Despite this research, government support for preschool is severely limited, as many children still do not have access to programs. This is largely because of the cost involved in creating a high-quality program and the tradeoff between creating high-quality programs that serve fewer children or providing access for more children that perhaps compromises program quality. The tension between access and quality is ongoing.

The Current State of Preschool in the United States

In 2014, the Education Commission of the States reported that 40 states invested in preschool programs serving approximately 1.3 million 3- and 4-year-old children. Programs vary in the length (full day versus partial day) and frequency (5 days per week versus a couple of days per week) that they offer to children. They also vary in the number of standards that they uphold as well as the population of children they serve. For instance, some programs serve specific income groups (i.e., New Jersey) while other programs are universal and serve all children in the state (i.e., Oklahoma). There are also various combinations of funding across states: for example, some programs partner

with Head Start, others utilize child care subsidies, and others rely strictly on state dollars.

Preschool Program Quality

A quality preschool program includes several components that consider children and their families, classroom environments in terms of visual space and materials, cleanliness and safety, and interactions between teachers and children and among children, as well as accommodations for parents and program staff members. Basic preschool standards that serve as proxies for quality include comprehensive early learning standards, teacher education and training, assistant teacher education, class size and ratio, teacher in-service, meals, monitoring, and referral and support services.

The discourse surrounding preschool quality has shifted over time to one characterized by a process-oriented focus, emphasizing what occurs in the classroom. This marks a clear divergence from the proxies of quality mentioned above that were so heavily attended to in the past. In general, the notion of preschool quality refers to a safe and engaging environment that prepares children for kindergarten, with teachers whose professional backgrounds allow them to have supportive relationships with children. Quality programs also have educated teachers who can foster children's autonomy and productivity while maintaining order in the classroom. There is also frequent communication between parents and teachers, along with expectations for growth of teaching staff.

At a more detailed level, quality preschool programs are often guided by two standardized observational measures: the Classroom Assessment Scoring System (CLASS) and the Early Childhood Environment Rating Scale (ECERS). These two measures are used widely in programs to guide the structure of the environment and the interactions that occur.

The ECERS is used to guide the space and furnishings and materials that define the classroom, as well as personal care routines, language and reasoning, activities, and basic interactions that take place. In addition, the ECERS considers the

structure of the program and provisions for parents and staff.

A preschool classroom with high quality for space and furnishings has an array of gross motor equipment and accessible, child-size toilets, sinks, tables, and chairs. It also has soft furnishings and soft toys, many materials (for art, music, dramatic play, math, and science), books, and displays for children to engage with. The environment is also cleaned daily, with age-appropriate toys and furniture in good repair.

In addition to space and furnishing accommodations, children are greeted and helped to become involved in activities. They are also allowed to nap as needed, and when necessary, they receive extra assistance with emotional or academic needs. Behavior expectations are made clear to children, and transitions from one activity to the next are made quickly to minimize waiting and down time. Children are also affirmed, encouraged, and scaffolded to explore independently.

High-quality preschool programs also provide separate bathrooms and a lounge area for teachers, as well as well-equipped office spaces and resources, and support for taking courses or attending training sessions. Paid sick and vacation leave for teachers are also provided in high-quality programs. Parents are informed in detail about the program prior to enrolling their children and there is frequent communication between parents and teachers. Parents are also referred to professional services as necessary and involved in classroom activities as a regular part of a high-quality program.

The CLASS focuses more on the nuances of the emotional and instructional interactions that take place between teachers and children and among children, to guide the level of program quality. Specifically, the CLASS measures how teachers help children develop warm, supportive relationships with teachers and peers; children's enjoyment of and excitement about learning; their motivation to engage in learning activities; their feelings of comfort in the classroom; their willingness to accept academic and social challenges; and whether levels of autonomy are appropriate. In addition, CLASS is used to measure the degree to which

teachers help children learn to solve problems, reason, and think; use feedback to expand and deepen skills and knowledge; and develop more complex language skills. Lastly, it is used to assess how teachers assist children in developing skills that will help them regulate their own behavior, get the most out of each school day, and maintain interest in learning activities.

As with any measure of program quality, a variety of assumptions underlie the items that comprise the ECERS and the CLASS. Even so, these two measures, in conjunction with a number of other measures, are widely accepted and have been extensively adopted in a number of states throughout the United States as part of quality and rating improvement systems (QRISs). A QRIS is an organized way to assess, improve, and communicate the quality of early childhood programs. Essentially, it is a system that considers various criteria in assigning a rating to each participating program. Typically, three to five levels of quality are designated based on the degree to which programs are meeting their predetermined standards of quality.

Programs that participate in QRISs receive supports (e.g., technical assistance on creating quality improvement plans, or professional development to enhance teacher knowledge and skills). They are also often given financial incentives to maintain higher quality ratings. Simple, easy-to-understand QRIS ratings enable parents to become savvy consumers of preschool programs for their children. Clear ratings also promote accountability, provide an avenue for policy makers to improve preschool quality, and ultimately promote the healthy development of children.

QRISs are becoming increasingly conspicuous in state preschool programs, as forms of accountability systems. As mentioned previously, more than 40 states now have some form of state-funded preschool program, and these programs vary in terms of the populations they serve and the characteristics of the programs. For instance, some programs seek to serve every child in a particular state (e.g., Oklahoma), while others are targeted programs and serve families that fall under a particular income level.

Further, there are many efforts currently under way to provide high-quality preschool programs for a greater number of children. In 2014, 18 states were awarded federal grants to develop or expand preschool access. Five of these states had either very small or no preschool programs at the time of the application and were awarded funds to develop programs for the first time. The other 13 states were awarded funds to expand existing programs with the aim of increasing access to high-quality preschool.

As programs are developed and expanded, the cost of implementing particular standards will have to be weighed against the goal of large-scale access. For instance, a class size of 15 students may be preferred, but a class size of 20 students would allow access to many more children. Similar considerations must be weighed in relation to salaries. While it may be preferable to pay larger salaries to teachers with superior qualifications, there is a trade-off between serving more children with less qualified teachers or fewer children with better qualified teachers.

Few state-funded preschool education programs existed prior to the 1990s. The rapid growth since the 1990s has been a crucial element in closing the equity gap throughout the United States, and the benefits of preschool education for children are rarely contested in the current era. However, there are fiscal challenges in terms of the trade-off between using available funds for *either* more slots *or* higher standards. Given the present focus on preschool in light of the research on its value, it is plausible that high-quality state preschool will eventually be accessible to every 3- and 4-year-old nationwide, as has been the case for elementary school for many years.

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See also Center-Based Care; History of Early Childhood Education Policy; Prekindergarten

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PRESCHOOL ADMINISTRATION

Preschool administration refers to the oversight and management of both the adult work environment and the daily experiences and interactions of young children in early childhood education settings, for example, preschools, child care centers, and nursery schools. Administration of programs for young children is a critical element of early childhood education because the way a program is managed has a large impact on the overall quality of the environment for the children in its care, children's families, and the staff who work with children and families on a daily basis. The following entry offers an explanation of the role of administrators in preschool programs and

a discussion of the importance of this administration to global quality.

Preschool settings can be either nonprofit or for profit, a full- or half-day program, and contained in a child care center, family home program, nursery school, laboratory preschool, or other variations of preschool settings. Regardless of the type, the administrator is responsible for overseeing all aspects of the program. Preschool administrators, often referred to as directors, managers, or principals, are responsible for hiring and firing of staff, maintenance of current records for children (e.g., immunizations) and staff (e.g., criminal background checks, immunization records, training hours completed); adherence to a budget (and often development of that budget, as well); accounts payable and receivable; the nutritional quality of the program's menus; the overall quality of the program; marketing the program; collection of parent fees; family involvement; parent communication; evaluation of staff performance; provision of professional and staff development opportunities; collaboration with state licensing agencies; adherence to all state regulations and requirements for operation; collaboration with state and federal subsidy programs (when applicable); establishment and oversight of program policies on health, safety, nutrition, employment, parent responsibilities to the program, staff expectations, and child behavior; oversight of all program operations; risk management; evaluation of program operations, procedures, policies, and quality; program planning; supporting expected child behaviors and intervening with challenging behavior; and anything else that may arise in the course of daily events in a preschool setting. Preschool administrators are ultimately responsible for everything that occurs in the program that they oversee.

One of the most important responsibilities of a preschool administrator is knowledge of and adherence to all state requirements for programs for young children. Each state in the United States has minimum standards that programs must adhere to in order to remain in operation, and wide variations exist in the stringency and oversight of these standards, resulting in variations in

quality levels across programs and states. These requirements typically cover issues related to cleanliness, safety, group sizes, teacher–child ratios, physical space, playground equipment and safety, nutritional requirements, teacher education and ongoing training requirements, criminal background checks for staff, immunization requirements for children, food safety, transportation of children, and maintenance of program records, in addition to many other requirements, all varying by state. Partly due to these variations among states and partly due to a desire to focus on program aspects that deal more directly with the types and varieties of activities and interactions that children experience while in preschool settings, professional organizations have developed voluntary accreditation opportunities. These accreditation programs offer an additional responsibility to program administrators who voluntarily enter into the accreditation process with regard to detailed self-studies, detailed documentation of program policies and procedures, external reviews of program quality, and ongoing reaccreditation processes once accreditation is awarded. While program administrators are not required to participate in these accreditation opportunities, those that do and are successful in attaining it may have increased responsibilities in terms of program operations and policy oversight, as well as reporting to the accrediting body. It is generally agreed that accredited programs are more likely to offer higher quality programming than nonaccredited programs, and a wealth of research supports the conclusion that higher quality early childhood programs lead to better developmental outcomes for children.

While preschool administrators spend less time in direct interaction with children in these settings, they are ultimately responsible for the daily experiences and interactions of children. Preschool administrators are responsible for ensuring that teachers meet educational requirements of the program (and state), receive the required amount of training hours per year, develop age-appropriate lesson plans, promote developmentally appropriate practices that provide a wide variety of types

of activities for children that include hands-on learning, free play, child–child interactions, and teacher–child interactions.

In conclusion, preschool administration refers to the day-to-day oversight and operation of programs for young children. Preschool administrators are responsible for all aspects of the programs that they oversee, and the administrator's leadership, management, and oversight is an important component of overall program quality.

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See also Center-Based Care; Child Care; Child Care Quality and Young Children's Behavior; Child Development and Early Childhood Education

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PRESCHOOL ROOMS

The preschool environment has a profound effect on emotional well-being and can either enhance or detract from learning. Large-scale studies and mega-analysis show that high-quality preschools can provide both short- and long-term benefits for

children's socioemotional and cognitive development and their future academic success. Although the effect of high-quality preschool does appear to decrease over time, there is a lasting effect on cognitive and social outcomes and school progress.

However, large-scale studies also indicate that many programs are not high quality and might actually cause children harm. Due to the high percentage of children in preschool programs, the quality of care they receive can have large consequences not only for the child and family but also for society. For example, according to the National Center for Education Statistics, 44% of 3-year-old, 66% of 4-year-old, and 85% of 5-year-old U.S. children attended a preprimary program in 2012.

Preschool rooms are designed for children between the ages of 3 and 5, before they begin kindergarten. However, where these programs are housed and the structure of the programs varies. Programs may be designed to house a single age level or be designed for a multiage group. They may be housed in Head Start programs, public schools, or other public and private settings. Preschool rooms might be part-day or full-day programs. This entry provides information about two very important aspects that determine a preschool's quality, the emotional environment and the physical environment, including the role of the teacher within the environment.

Emotionally Supportive Environment

Emotionally supportive teaching is the foundation for quality care. Emotionally supportive teachers are in tune with developmental progressions, children's individual needs and interests, and the cultures and communities in which children reside. They use this information to develop positive relationships with each child and to offer consistent, respectful emotional, social, and academic support.

When teachers are consistently emotionally supportive, research shows that children feel safe, positive behavior increases, and there is improved academic readiness resulting in higher social, math, and reading scores in later grades. Education

resiliency and work habits are also positively influenced by supportive teachers. Additionally, consistent, emotionally supportive teachers act as a buffer for children's stress helping children cope effectively with stressors. This is especially crucial because excessive stress has been found to affect the actual architecture of the brain and to have short- and long-term impacts on memory, learning, and self-regulation (the control of emotions, actions, and thinking).

To provide an emotionally supportive environment, teachers assist children to develop skills including self-regulation skills. Children who have better self-regulation skills have higher self-esteem, increased academic performance, better social skills, and the ability to handle emotions constructively. They also have better long-term outcomes in relationship to health, substance abuse, finances, and criminal behaviors.

Supportive teachers have realistic expectations for young children and view problem or mistaken behaviors as learning opportunities. They assist children to recognize and then learn to control their emotions through planned activities and teachable moments. When issues arise, they use and teach children positive guidance strategies such as conflict resolution. The environment is also designed to assist with emotional regulation, providing quiet retreat spaces, as well as soothing and active activities. For example, one child might pound on earth clay when she gets angry while another might retreat to an alone space. A child who is anxious might find comfort playing at the water table.

Skilled teachers also help children develop friendship skills. The quality of children's friendships is linked to future social, emotional, and academic outcomes. The teacher develops a classroom community where each child feels like a valuable member of a group whose members actively encourage, support, and influence each other. To develop social and friendship skills, children need abundant daily opportunities to interact while participating in learning centers, small groups, and mealtimes. They also need teachers who support them in learning skills such as how to

join and sustain play. Skilled early childhood teachers stress cooperation. Even subtle forms of competition are eliminated such as having the quietest child leave the circle first.

Additionally, effective teachers assist children to feel competent. This is done by providing the right degree of independence based on children's development, individual needs, and cultural expectations. For example, preschool children can become increasingly proficient at accomplishing self-help skills such as dressing themselves. Children might also perform classroom jobs. In some classrooms, children even lead the circle time activities. Most importantly, curriculum and activities are designed so that each child can be challenged and yet successful. Assisting children to develop competence also means that teachers provide children with challenging curriculum in each of the academic areas.

The teacher also establishes a predictable, orderly environment. The environment affects not only children's learning but also their stress level. When examining children's demographics, their individual characteristics, and the early childhood environment, researchers have found that the greatest influence on children's cortisol levels is the environment. Cortisol (a stress hormone) levels are higher in unstructured and low-quality settings. This is a concern because high cortisol levels put children at risk for poor developmental outcomes.

Rich Learning Environment

A rich learning environment is another characteristic of a quality preschool program. The way that the environment is arranged supports a particular philosophy of education. In early childhood, teachers and programs typically have a constructivist philosophy. Early childhood education has a rich history of supporting play-based learning using a constructivist approach. Children are viewed as active constructors of knowledge with the teacher assuming the role of facilitator. This view was promoted by many theorists and approaches including Maria Montessori, Lev Vygotsky, John Dewey, and Loris Malaguzzi. This view continues to be preva-

lent and is prominent in National Association for the Education of Young Children (NAEYC) position statements including the Position Statement on Developmentally Appropriate Practice. Play is viewed as the perfect medium for children to actively construct knowledge because as children play, they engage in integrated, authentic learning at their ideal level of development. Additionally, while they interact with others, their learning is often scaffolded, or supported, by a more competent peer. Further, during sociodramatic play (pretend play with others), they use abstract thought as they separate meaning from an object, practice self-regulation skills to keep the script alive, and learn social skills.

A primary way that children engage in play-based learning is through using learning centers. Learning centers are self-contained areas with a variety of hands-on materials organized around a curriculum area or topic. A preschool room typically contains dramatic play, creative art, literacy (reading, writing, and listening), music, sensory, manipulative, science, math, and block and construction centers. Technology is most effective when it is used as a tool to enrich the curriculum. Therefore, effective programs infuse technology throughout the learning space. For example, a tablet computer might be placed in the science center, allowing children to watch a video clip related to their current topic of study.

Each center enhances unique knowledge, skills, and dispositions. For example, as children use blocks they have the opportunity to gain mathematical knowledge. Research has shown a correlation between children's preschool block-building ability and their math abilities in middle and high school. Children who are more proficient block builders score higher on math achievement tests, take more advanced math, and have better grades in math even when factoring in gender, intelligence, and social class.

While using learning centers, children should have choices of what centers to engage in, what materials to use, and whether to work alone or with others. When the centers are well developed, this allows children to choose centers and materials

that match their interests and development. Studies show that when children have choices of activities they are more self-directed, have less disruptive behavior, and are more engaged in tasks. Within the classroom, spaces are developed for children to work individually, in pairs, or in small groups and to gather as a large group.

Effective classrooms are specifically designed to allow children to engage in deep, rich play. To limit disruptions between the learning centers, the centers are grouped into quiet and active centers. Centers that can be used in a reciprocal way to enrich play are placed next to each other. For example, children may build a bus in the block area and then use clothing from the dramatic play center to enhance their play.

Well-defined boundaries between centers also increase the level of play. The boundaries help control traffic, keep activities from interfering with each other, and assist children in retaining focus. Boundaries might be created with shelving and furniture, with portable low screens, or by hanging sheer material from the ceiling. Research reveals that children are more deeply engaged in their activities and are less distracted when there are well-defined boundaries. In addition, children display more appropriate behavior, positive interactions, and cooperation resulting in teachers who are less controlling and more engaged in learning activities.

Design experts recommend that there be a minimum of 50 square feet of space per child. High density levels, or crowdedness, negatively affects children's cortisol levels, social interactions, attention span, and achievement. Crowding is especially detrimental for children who have special needs or who experience crowded environments at home. Teachers also need to ensure that all the areas of the classroom are being effectively used. For example, the large group space might also be used as the music and movement center during center time.

Alone areas or retreat spaces are also a critical aspect of the environment. Many children spend nine hours a day in an early childhood environment and feel the need to occasionally escape the large group. Retreat areas are most effective when

they are small and encapsulated. The space allows children to remove themselves from the group while still witnessing the world around them. For safety reasons, spaces are designed so that adults can easily monitor them. For example, using sheer curtains or open tops allows children to feel enclosed while also allowing supervision. Retreat areas might be created under a loft or teacher's desk or in a mirrored wooden box. Children might help create a retreat area by making an igloo from gallon milk cartons or a painted refrigerator box. The retreat area houses materials that are calming for the children in the group such as a tape player with nature sounds, books, or art materials. When retreat areas are available, children interact more with peers, engage in less wandering behavior, are less aggressive, and display enhanced cognitive development.

Storage is another aspect that is important in a well-designed room. Storage includes personal storage for children and teachers, storage needed to replenish and rotate materials, and storage for children's ongoing projects. Having appropriate storage can save money, time, and frustration.

Choosing and Displaying Materials

Learning materials for preschool classrooms need to be developmentally appropriate, designed for individuals and for the age group, interesting to the children, and culturally relevant. For example, a study that looked at the cultural relevance of materials found that when non-school-attending children in a third-world agricultural community used seeds for a math task, they outperformed a group of children from the United States. However, when colored disks were used for the task, the children in the United States performed better.

Since children in a classroom are at a variety of developmental levels, materials need to accommodate this need. One way this is accomplished is through providing open-ended materials such as buttons to classify. This allows children who are ready to classify on one attribute such as color to do so. Children who are developmentally ready can classify using two attributes simultaneously,

such as color and shape. When closed materials are used, such as puzzles, the teacher needs to provide puzzles at a variety of levels.

In well-designed preschools, an abundance of materials is available to provide for more in-depth learning and to prevent waiting. For example, it is recommended that 100 unit blocks be available for each child using the block area. This allows children to build large, detailed buildings. As children build larger structures, they gain additional experience with concepts such as balance.

Materials also need to be examined for the affordances or opportunities that they provide. Red, yellow, and blue teddy bear counters found in many classrooms allow classification by size and color. However, a box of buttons provides numerous ways to classify. Authentic materials often provide more affordances for children. For example, many art easels produced for children are nonadjustable. However, an adult floor easel is often adjustable allowing for very large sheets of paper. How the activity is designed can also affect the affordances. For example, there are more opportunities for learning when color-coded music is added to the music keyboard by coding the eight groups of keys on a piano keyboard with eight different colors.

How materials are displayed can also affect learning. When materials are well organized and displayed in an attractive, aesthetic way they are easier to locate and more interesting to use. In high-quality programs the emphasis is placed on the materials, with neutral color containers and shelving. Materials are readily available and accessible for children to use. This often entails labeling of containers, so children know where items belong. For example, farm animals and zoo animals might be separated in baskets allowing children to more easily find the animal they are looking for. They are also gaining classification skills as they put the animals away.

Establishing a Context for Learning

Large studies examining how children in prekindergarten programs spend their time find that children's time is nearly equally divided between

routines (including meals), center time, and teacher-directed time. Although routine times can be effective learning opportunities, research reveals that they are not typically used this way. For example, relaxed conversation at mealtime can be used to enhance children's language and social skills. High-quality programs view all times of the day as learning opportunities, including routine times.

High-quality programs provide consistent but flexible schedules. Schedules provide consistency, allow children to anticipate what to expect next, provide the opportunity for children to build self-control and self-regulation skills, and free children to focus on higher order learning. Research reveals that children experience less anxiety and have lower cortisol levels when schedules are consistent but flexible.

For children to take advantage of learning centers, they need at least an hour of center time. This allows children to deeply engage with the activity and leads to greater learning. For example, this amount of time is needed to develop an elaborate plot, choose roles and props, and enact a dramatic play scenario. Likewise, creating a clay figure or an elaborate block structure takes time. Research shows that frequent scheduling changes, on the other hand, decrease children's internal motivation, reduce attention spans, and create an increased dependency on teachers.

Role of the Teacher

In addition to being emotionally supportive, preschool teachers are curriculum planners and environmental designers. As environmental designers, they not only set up the initial space but carefully observe, changing centers and materials to deepen children's learning. For example, in one program children became interested in collecting bugs in the play yard. Their teacher changed the science center to reflect this interest, adding magnifying jars and glasses to closely examine bugs, materials to create bug habitats, and books and short YouTube videos to learn more about bugs.

Although children learn through play with no teacher involvement, research shows that they

learn more when the teacher is judiciously involved supporting their play. This includes observing, scaffolding learning, supporting peer interactions, acknowledging children, assisting in the avoidance of risks, and documenting learning. When scaffolding learning, teachers might ask open-ended questions, provide additional information and materials, model new vocabulary, discuss concepts, or be a play partner.

Learning is also more effective when teachers assist the children to synthesize their learning. For example, the teacher who created the bug center had large and small group times where she facilitated discussions about how to care for the bugs and what the children were learning about bugs as they used the various resources.

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See also Play, Benefits of; Prekindergarten; Preschool; Primary Grade Learning Spaces; Transitions and Routines

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PRESERVICE TEACHER PREPARATION

Preservice teacher preparation is the process of educating students with regard to the knowledge, skills, and dispositions needed to become teachers. Preservice teacher preparation is necessary because learning to teach is not a self-actualizing occurrence from the received wisdom of years observing

the profession as a student. In other words, teachers aren't simply produced from their experiences as students with addition of subject matter and teaching techniques in their college years. Preparation to teach offers a shift in thinking from past experiences as students to the perspectives of teachers. Research suggests a nuanced and complex understanding of how students become teachers. This entry discusses the practice, policy, and politics of teacher education.

Practice

The practice of preservice teacher preparation revolves around teacher knowledge, skills, and dispositions that should be targeted and how teachers obtain them.

Knowledge, Skills, and Dispositions

Preservice teachers must gain knowledge of learners, subject matter, and pedagogy. Knowledge of learners can include human growth and development, culture, and personal motivation. Subject matter is typically divided into branches of literacy, mathematics, science, and social studies. Knowledge of teaching can include understanding of pedagogy (teaching techniques) from direct instruction (explicit teaching) to inquiry-based learning (posing questions and establishing facts) and ways to facilitate active participation of young children.

Preservice teachers should also be able to use skills. Necessary teaching skills revolve around assessment, planning, and instruction. Assessment skills often fall into two categories: formative and summative. Formative assessment includes procedures for modifying learning during the process, while summative assessment includes procedures for evaluating learning after the process. Students' formative and summative data should be used in order to make instructional decisions. Planning skills often include long-range and short-range forms. Long-range planning can include curricular mapping (pacing the criteria or standards) and long-term student goal setting. Short-range planning can include unit, weekly, and daily planning.

Effective teachers are able to take a working understanding of instructional pedagogy and put it into action.

Preservice teachers should form teaching dispositions in areas including demonstrating professionalism, establishing a fair and supportive learning environment, and promoting leadership within the classroom and school. Dispositions for professionalism include interpersonal communication capability, punctuality, and positive demeanor. Environmental dispositions include establishing and maintaining a safe learning atmosphere with respect and sensitivity to all. Dispositions for leadership include continual growth through reflection and taking action to champion student learning. Dispositions are sometimes referred to as commitments or traits.

How Teachers Are Prepared

Teaching preparation is complex. Developing the understanding of classroom life from the perspective of a teacher rather than a student is a lengthy and challenging process. Preparation also requires multiple skills because of the challenge of connecting theory with practice. Effective teacher educators model practices and provide learning experiences in a variety of ways. Practices and experiences occur in many settings: university classrooms, school classrooms, community centers, and online arenas. Preservice teachers' progress is assessed through multiple means such as testing, conferencing, and performance-based assessments such as portfolios and teaching evaluations. Different types of resources and feedback are implemented to support teacher candidates' progress. Human resources such as mentor teachers or coaches as well as professional literature and curriculum materials contribute to teacher development. Enthusiasm from teacher educators with regard to preservice teachers' progress contributes to an understanding of professionalism and commitment to the importance of effective instruction. In addition, institutional support for teacher preparation programs is necessary for worthy efforts in fostering future committed professionals.

Policy

Preservice teacher preparation policy is informed by the certification and licensure requirements of the profession, though policies are typically established by individual states. Such state requirements vary, but generally teachers are required to obtain a bachelor's degree, complete a teacher preparation program, and pass state-mandated tests in order to obtain certification and/or licensure. Preparation programs may be completed as undergraduates, graduates, or through alternative certification programs. Traditionally, teacher preparation begins with coursework and integrated field experiences with increasing responsibility for teaching and classroom routines. Traditional programs culminate in a mentored teaching experience, which is commonly referred to as an internship, student teaching, or a practicum. Alternative preservice preparation routes, however, typically allow teachers to begin classroom teaching either after minimal preparation or while fulfilling requirements for certification. Vast variations exist among teacher preparation programs.

Politics

Accountability and equity are two issues shaping the agenda of teacher preparation programs.

Accountability

The No Child Left Behind Act (NCLB), a 2001 reiteration of the Elementary and Secondary Education Act of 1965, ushered in more accountability for public education than ever before. Teacher preparation programs must instruct future teachers to be constructively critical of how current climates affect student outcomes. Also, teacher educators are responsible for teaching preservice teachers about federal policies that impact public schools and how policies change over time. At the same time, preservice teachers need to understand that they are to develop a sense of autonomy as they meet policy requirements and at the same time effectively address academic needs of increasingly diverse populations of students. Thus, teacher

preparation programs must groom and champion teachers who are able to understand the contexts in which they work, and have the knowledge, skills, and dispositions necessary for leading students to positive outcomes in the ever-changing current political climate.

Equity

American public schools represent a very broad spectrum from thriving, innovative schools to poor, failing ones. Many preservice teacher preparation programs promote social justice (equal economic, political, and social rights), in order to prepare students for the potential effects of school inequality. An awareness of achievement gaps and their origins along with an acute sense of health and child development assist in the preparation of teachers for potential learning obstacles. Preservice educator programs endeavor to teach students constructive analysis of topics surrounding school equality in order to promote learning for all.

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See also Conceptual Framework for Teacher Preparation Programs; Early Childhood Teacher Education; Policy and Early Childhood Education; State Policy Making; Teacher Preparation Policy and Practice

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PRETENSE

Pretense refers to actions that are nonliteral and performed in an “as if” manner. Pretense is most commonly thought of as pretend or symbolic play, but it also can refer to the act of having something stand for or represent something else. According to psychologist Greta Fein, there are five characteristics of pretense: (1) behaviors are carried out without the appropriate materials or context; (2) behaviors are not done to achieve their normal outcome; (3) inanimate objects can be acted upon as if they were animate; (4) objects or gestures can be substituted for others; and (5) the pretender can carry out an action that is usually performed by another person or object. In addition to defining pretense, many researchers have proposed theories on the function of pretense and why children spend so much time engaging in pretense (up to 6 hours a day).

Pretense is an activity most children naturally participate in and enjoy. Therefore, understanding the effect of pretense on children’s development and learning allows us to better understand how it can be used as a tool in early childhood classrooms and curricula. This entry provides information on the developmental time course of pretense, the relation between pretense and both cognitive and social development, pretense in atypically developing populations, the role of pretense in early childhood classrooms, and future research directions.

Developmental Time Course of Pretense

The developmental time course of pretense has been well documented. The first pretend actions occur around 12 to 18 months when children begin to act “as if” with objects (e.g., bringing an empty spoon to mouth). At 24 months, children begin to engage in pretend play due to their ability to understand the symbolic relation between objects and their substitutions (e.g., using a spoon as a phone) and they begin to combine object substitutions while playing. They also begin to engage in role-play by performing actions on dolls and

stuffed animals. In addition to further developing their own pretense, they begin to understand the pretend actions of others and the imaginary outcomes these actions can have. During the preschool years, children are better at reflecting on the relation between symbols and their referents and they begin to understand irony and sarcasm. In this period, children’s pretense becomes more decontextualized or distanced from reality. They begin to substitute objects that are different from the original object in function and appearance. In middle childhood, overt pretense is replaced by games with rules, although imaginative activity persists throughout the life span.

Relation Between Pretense and Cognitive Development

Pretense has benefits for children’s cognitive development. Research in this area has focused on relations between different aspects of cognitive development and pretense and whether interventions or training programs involving pretense can lead to improvements in these domains, including intelligence, language, reasoning, creativity, and executive function.

Regarding intelligence, children who engage in more pretense with others tend to have higher intellectual ability. However, few studies have found positive effects of pretense-based interventions on children’s intelligence. Similarly, children with better language ability often engage in more pretense. Relatedly, previous research has found that pretend play or fantasy materials can increase literacy in young children. There is also a relation between pretense and narrative skills. For example, children who engage in more social pretend play and who have imaginary companions tend to have better narrative skills when completing or comprehending stories. There is also research that suggests pretend play props help children comprehend and retell stories. Another domain in which fantasy or pretense contexts improve children’s cognitive abilities is reasoning. For example, 2- to 6-year-olds reason better about syllogisms that contradict their own world knowledge (e.g., fish live in trees)

when they are presented in contexts that involve imagination or pretense (e.g., on a faraway planet).

A cognitive skill that logically seems like it would be related to pretense is creativity. Creativity is measured through tasks that assess the ability to think of multiple ways to solve a problem. Divergent thinking is associated with the frequency and imaginativeness of social pretend play, even when controlling for verbal ability. The amount of pretense in early childhood can also predict creativity up to 4 years later or in adolescence. Interventions involving pretend play can improve children's creativity, but sometimes the effects are not long lasting. For example, a play intervention led to improvements in creativity immediately after, but these effects were not seen 2 to 8 months after the intervention. Therefore, it may be necessary to have follow-up sessions for this improvement to be seen long term.

Another cognitive domain related to pretense is executive function. Executive function, commonly known as self-control, refers to higher order thinking skills that guide goal-directed behavior. These skills include working memory, inhibitory control, and cognitive flexibility. Previous research has found a strong positive relation between pretense measured in the laboratory and executive function in preschoolers. Furthermore, having children complete inhibitory control tasks improves their scores on subsequent pretense measures. Additionally, children who had good imaginations or who participated in fantasy play training waited longer during a delay-of-gratification task than children who did not. Outside the lab, frequency and persistence in sociodramatic play predicted later self-regulation during cleanup time in preschool classrooms, even when controlling for age, vocabulary, and earlier self-regulation.

Relation Between Pretense and Social Development

Pretense also has benefits for children's social development, especially for their social competence, emotion regulation and understanding, and theory of mind skills. Given that engaging in

pretense with others involves understanding the actions of others and being respectful of the rules of the pretend play episode, pretense allows children the opportunity to develop their social skills. For instance, in one study, the amount of time children spent engaging in pretend play and its complexity were related to teachers' ratings of children's social competence and popularity with peers. Other findings showed that specific aspects of pretend play such as enacting roles and negotiating rules with play partners were related to 4- and 5-year-olds' popularity with peers.

Pretense is also an activity that allows children to learn more about the emotions of others and how to regulate their own emotions. However, there are mixed results on how pretense affects emotion regulation. Some studies have found a relation between children's emotion regulation and pretend play, independent of verbal ability. Others have found a relation only in certain populations, such as in girls but not boys. Furthermore, one study found that children enrolled in Head Start programs who had better interactions with peers during play exhibited better emotion regulation in the classroom. Specific aspects of pretend play can lead to greater emotional understanding. For instance, children who engaged in more pretend play with a peer demonstrated greater understanding of the emotions of others than children who engaged in less pretend play with a peer. Moreover, cognitive aspects of pretense such as incorporating and organizing fantasy and emotions during play were related to children's ability to describe their own emotions and to understand the emotions of others.

Another topic that has gained a great deal of attention is the relation between pretense and theory of mind. Theory of mind refers to the ability to understand the beliefs, desires, and emotions of others. This is especially challenging for young children to learn when their own mental states do not match those of others. According to a large body of research, there does seem to be an association between theory of mind skills and specific types of pretense. For example, children's theory of mind is related to their production of joint proposals and explicit role-play assignments in pretend play with

others, but not to solitary pretend play. In addition, pantomime (acting out actions on imaginary objects) is a type of pretense related to theory of mind. Preschoolers with imaginary companions also tend to have better theory of mind skills. Some studies have found a correlation between the mere frequency of pretend play and children's theory of mind skills, whereas others found that the quality of early social pretend play was significantly related to children's later understanding of other people's feelings and beliefs.

Pretense in Atypical Populations

Pretense appears to be universal among typically developing children, and so its absence can be cause for concern. Most of the research on pretense with atypically developing children has focused on autism spectrum disorder. This is likely due to the fact that children with autism have a deficit in pretense in addition to other domains that are closely related, such as language and executive function. Children with autism are unlikely to spontaneously engage in pretend play, and their play is generally less symbolic and more immature than the play of typically developing children. Further investigation of this pretense deficit has revealed it is a problem with generating the pretend actions on their own since they are able to produce pretense actions when prompted to do so. Several theories attempt to explain the lack of pretense in individuals with autism. For example, one theory points to the deficit in theory of mind abilities as being the culprit, whereas another theory sees executive function as central. Either way, pretense appears to be part of the constellation of social-cognitive impairments in autism.

Pretense in Early Childhood Education

Some developmental theorists, such as Jean Piaget and Lev Vygotsky, spoke to the importance of pretend play for higher order thought and for the development of self-regulation and language in early childhood. Despite these theories and research, there has been a trend in early childhood classrooms to decrease the amount of time dedicated to

play to focus more on academic activities. Although this is the case in most traditional classrooms, there are some curricula that emphasize pretense and play, such as the Tools of the Mind curriculum created by Elena Bodrova and Deborah Leong. The Tools of the Mind curriculum is based on Vygotsky's ideas about the importance of play and language for self-regulation and uses mature sociodramatic play as a key learning tool.

The Tools of the Mind curriculum has been shown to have several benefits. For example, in a few randomized controlled trials, children in kindergarten and preschool classrooms that used the Tools of the Mind curriculum had fewer behavior problems, better executive function skills, better information processing, and improvements in math, reading, and vocabulary learning. The classroom environment was also of better quality for learning and language development. This research suggests a pretend play-based curriculum can be effective in the early schooling years.

Pretense appears to be related to children's cognitive and social development and can lead to positive social and academic outcomes when incorporated into early childhood curricula. However, it is important to remember that much of the current work is correlational, and causal relations cannot currently be determined.

Future Directions

Although there is a rich literature on pretense during development, there are still some unanswered questions. For example, what are the specific aspects of play-based curricula that are important for improving children's social and academic outcomes? The interrelations among pretense, theory of mind, and executive function also need to be studied further to better understand the developmental mechanisms underlying these skills, and how best to intervene. Finally, continued investigation of the function of pretense in early childhood is needed to better understand how pretense can impact development in diverse populations.

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See also Imagination; Play, Benefits of; Sociodramatic Play and Sara Smilansky; Tools of the Mind

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PREVENTION SCIENCE AND EARLY EDUCATION

This entry first examines the ways in which the fetal environment, the home environment, and the social setting more generally affect the long-term development of the child. Such analysis is known as *prevention science* because it seeks to identify ways to prevent negative impacts on the child from conception onward. The entry reviews the research on the positive impact of early education and concludes with a look at the relationship between public policy and early childhood education.

Impacts of Fetal, Home, and Social Environments

Who our parents are, our health at birth, and how we live, eat, and play as young children all have an impact on our adult life. Starting at conception, the outside world gets under the skin. The environment of the developing fetus—the nutrition it receives, the pollutants, drugs and infections it is

exposed to, and the mother's overall health, well-being, and stress level—influences how genes are expressed and ultimately how the brain is formed and functions.

The newborn brain is about 25% of its approximate adult weight. By the time the child starts school, it has grown dramatically by producing billions of cells and hundreds of trillions of connections, or synapses, between these cells. Nurturing, stimulation, and nutrition interact with genetic predispositions to sculpt the architecture of the brain and its neural pathways, influencing learning, behavior, and physical and mental health over the life course.

Adversity in early childhood in the form of harsh, neglectful, or inconsistent parenting, combined with poor social demographic factors, has an impact on brain development. These can create cascading effects that manifest throughout the life cycle:

In preschoolers: aggression or withdrawal, developmental delays

In adolescents and young adults: poor academic performance; low levels of school completion; early pregnancy; mental health problems and risky behavior, including substance abuse

In adults: obesity; type 2 diabetes, cancers, and heart disease

In turn, intergenerational cycles of poor outcomes are perpetuated. Developmental neuroscience is revealing why and how these early experiences influence human development. They also tell us why it can be so difficult to alter development trajectories; for once formed, the neural connections that underpin competencies can be difficult to modify.

Educational attainment is associated with several factors including socioeconomic status, physical and mental health, and the likelihood of engaging in anti-social behavior. However, the capacity to learn in school is strongly influenced by the neural wiring that takes place in the years before schooling begins. The connections that are formed between neurons and between neural networks affect a child's ability to attend to a lesson;

to recognize patterns; to absorb, process, and retain new information; to understand what others are thinking or feeling; or simply, to grasp and conform to the norms of classroom behavior. The greater the synchrony between the subcortical and prefrontal systems in the child's brain, the more the child will thrive in a school environment. But when a child enters school with underdeveloped connections or with constrictions in these neural networks, the abilities needed to benefit from schooling can be significantly impeded.

Reducing academic gaps and their resulting long-term social inequities is dependent on improving the competencies of children before they start school. These aptitudes include language skills, cognitive abilities, and the social and emotional capacity needed to interact with peers and adults. Canadian assessments of kindergarten-age children indicate that 1 in 4 is vulnerable in at least one of the above areas of development. These differences persist and often increase during the child's school years. For example, research from the University of British Columbia links vulnerability in kindergarten to poorer performance on standardized testing in Grades 4 and 7. Other Canadian research links vulnerability in kindergarten with poor academic results, including increased grade repetition and early school leaving, at Grades 10 and 12.

The home environment has the strongest influence on children's competencies prior to school entry. Quality early education has been found to amplify benefits for all children and helps to mitigate the detrimental effects of adverse home and neighborhood environments on school readiness. Children who benefit most from participation in quality preschool, but who are the least likely to attend, are those living in families disadvantaged by poverty.

The Benefits of Early Childhood Education

Meta-analyses of 40 years of developmental research identify advantages from regular attendance in early childhood programs that persist

into adulthood. A large study of more than 3,500 children in the United Kingdom tracked participants into their teens and shows the effect size of home versus outside factors. The home environment, including parent education, the health of family members, and family income and socioeconomic factors, exerts the most influence on child outcomes. However, the strongest influencers outside the home are early education and the quality of early schooling. The effect size of preschool attendance was found to be stronger than other interventions including home visiting or parenting programs alone. Preschool could also help compensate for adverse neighborhood influences. Work from North Carolina indicates that good quality early education can compensate children for lower quality primary schooling. These studies provide important information for policy makers. While it is difficult for public policy to alter family dynamics, it does exert considerable influence over the availability and quality of preschool and primary schooling.

Early language exposure at home predicts the size of children's growing vocabulary and later verbal and literacy skills. One U.S. study found that by age 4, children in affluent families heard 30 million more words and have vocabularies that are three times larger than children in low-income families. Children with poor verbal skills at school entry are unlikely to have the process reversed by the school system. A Quebec longitudinal study reported that children's expressive language prior to school entry is the best determinant of future reading competencies.

Similar findings are reported from a New Zealand longitudinal study, *Competent Children, Competent Learners*. Children who were low achievers at age 5 were likely to remain well below the median for all reading and mathematics tests at ages 14 and 16, regardless of family socioeconomic status. The study began in 1993 with 500 children who were almost 5 years old to investigate whether early childhood education helps children become lifelong learners, and if so, how. Researchers collected data about cognitive competencies, social and communication skills,

and home and education experiences. The findings reveal the difficulty of raising low levels of performance, particularly after age 8. The study points to the value of early education programs that include high-quality interactions between children and staff, educators who join in the children's play, and a "print-saturated" environment.

A longitudinal study in Sweden found a correlation between low literacy levels in adolescence and anti-social behaviors. Although there are many explanations for this relationship, there is strong evidence that the degree of verbal exposure in the form of reading and language in early childhood has significant effects on later literacy. Talking and reading to young children are also associated with the quality of adult-child interactions.

The quality of adult interactions—how responsive adults are to the child and the quality of the nurturance the child receives—is a critical factor in influencing the development of the child's neural pathways that affect multiple functions, including language, intelligence, and behavior in later stages of life.

The benefits of preschool are sometimes dismissed based on standardized school test scores that characteristically weaken over time; however, growing evidence suggests preschool attendance remains influential into adulthood. Enduring benefits, particularly for those in disadvantaged families, include decreases in school dropout rates, criminal behavior, and drug use, as well as increased adult earnings. Preschool is also associated with outcomes identified as desirable in modern economies, including proficiencies in critical thinking, enhanced interpersonal skills, adaptability, and openness to differences and innovation.

In countries with ethnically and economically diverse populations, the positive benefits of high-quality preschool are seen in children from both low and middle socioeconomic classes, with stronger effects for children in lower socioeconomic circumstances, dual-language children, Aboriginal children, and children from immigrant families.

The persistence of deep poverty in rich countries and its prevalence in developing nations requires

evidence-based interventions. One important study from Jamaica shows the impact of nutrition and stimulation on children's early development. Children 9 to 24 months old whose height was two standard deviations less than the norm for their age and sex were randomly assigned to different groups. One group received dietary supplements; another, stimulation; and a third group, both stimulation and nutrition. The children were followed for 24 months. Stimulation alone and nutrition alone improved developmental outcomes, but the greatest impact came from combined stimulation and nutrition. The height of children who received both stimulation and nutrition increased to normal levels within 2 years. When assessed at ages 11 and 12, children who were stimulated showed improved IQ and cognitive function but were behind middle-class children whose growth was not stunted. Children receiving nutritional supplementation alone showed no cognitive gain.

A similar study in Colombia found that food supplements alone did not benefit the children but had substantial benefits when combined with stimulation.

The benefits derived from early education programs are directly linked to their quality. Researchers have related the quality of programs for young children to physiological measures, particularly to cortisol levels. Cortisol is a steroid hormone that is secreted during times of stress. Chronically elevated levels of cortisol affect all tissues in the body and are a risk factor for mental and physical health problems. Australian researchers found poor quality in child care centers associated with higher cortisol levels in children when measured at the beginning and end of the day. The most vulnerable children, those who began the day with higher cortisol levels, also had the most elevated end of day cortisol levels when in poor-quality programs.

Public Policy Influences on Early Education

A 2008 report by the Commission on Social Determinants of Health found that early education

programs are most effective when they are universally available, are part of a children's service network, include health and parenting supports, and are accompanied by adequate paid parental leave and income transfers.

The Organisation for Economic Co-operation and Development (OECD) Quality Network (2011) lists four factors required for effective early education programs:

1. The children regularly attend the programs. The effect size is greater when programs are available to all children rather than targeted to children in low-income families.
2. Early childhood education programs are adequately staffed.
3. Sufficient numbers of educators have a degree in early childhood education.
4. The teaching approach is child centered, with a high proportion of child-initiated activities.

The network does not set targets for staffing levels or educator qualifications, nor does it specifically define the curricula. Rather, it finds a correlation between these factors and outcomes for children. These are considerations for policy makers as they grow access to preschool programs.

Results from the Programme for International Student Assessment (PISA) support these findings. PISA is a triennial survey conducted by the OECD in cooperation with national education departments to assess the math, reading, and scientific knowledge of students nearing the end of secondary schooling. The 2009 reading assessment of students at age 15 shows that, in most countries, pupils who attended early education programs perform better than those who did not attend. Preschool attendees showed almost a full-year advantage in reading comprehension.

The PISA study discussed the role public policy can play. Longer attendance in early education programs, smaller child-to-staff ratios, and higher public expenditures per child during the preschool years all enhanced the reading scores of pupils at age 15. The largest differences are associated with

a higher portion of preschoolers attending early education programs and the number of years children attend. PISA found an average 10-point score increase for each year of preschool attendance by children ages 3 to 6 years.

The persuasive evidence of the widespread benefits of preschool education creates a strong rationale for an efficient, high-quality service system accessible to all children. Preschool's positive influence on educational outcomes makes it a compelling area for public investment. Education is the ultimate tool to address many economic and social challenges. It creates wider options for careers, raises employment levels, and lowers chronic unemployment, leading to higher standards of living, greater income equity, and a reduction in the social ills associated with poverty. A more educated workforce creates a more innovative and productive economy. These are the outcomes desired by progressive nations.

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See also Abecedarian Project; Acquisition of Reading and Writing; Attachment and Stress; School Readiness; Self-Regulation

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PRIMARY GRADE LEARNING SPACES

With the increased emphasis on children's achievement, there is also increased recognition about the need to design learning spaces that will result in greater learning. How this is conceived is embedded within the philosophical beliefs of the teacher and the school. This entry will look at historical and contemporary factors that affect philosophical beliefs, examine the foundation for establishing effective classroom environments, and consider learning centers as a way of designing classroom spaces for kindergarten through third-grade children.

Learning centers are self-contained areas with a variety of hands-on materials organized around a curriculum area or topic. For example, a math manipulative center in a kindergarten classroom might contain a variety of math games and activities aligned to state standards. These could include such things as different materials to classify, a variety of measurement tools such as balance scales and rulers with math challenge cards, games that involve counting, and two- and three-dimensional shapes with shape cards for composing shapes. Learning centers might also be

referred to as interest areas, learning stations, work stations, or activity areas.

Historical and Contemporary Factors

The philosophical belief of the teacher and school influence all areas of teaching and learning, including room design. Early childhood education has a rich history of encouraging active, inquiry-based learning based on the theories of Maria Montessori, Jean Piaget, and Lev Vygotsky. Constructivism, the belief that children actively construct knowledge based on experiences, background knowledge, and interests is at the heart of the early childhood belief. The teacher is viewed as a facilitator who sets up the environment and activities to stimulate child choice, initiative, experimentation, and social collaboration and who interacts with children in ways that deepen their thinking and learning. Constructivists believe that children are capable. Therefore, they trust the child-initiated learning process where children choose learning activities that are based on their developmental needs and interests. This would be balanced, however, with teacher-initiated learning.

The National Association for the Education of Young Children (NAEYC), the largest professional early childhood organization in the world, advocates for quality, research-backed practices for children birth to age 8. The NAEYC Developmentally Appropriate Practices Position Statement, based on constructivist beliefs, promotes integrated learning; a balance of child-initiated and teacher-initiated activities; firsthand, play-based learning experiences; and extended blocks of time for children to engage in a choice of learning activities.

However, many elementary schools do not follow constructivist philosophy, instead subscribing to the belief that the teacher is the primary transmitter of knowledge. The instructional strategies used are often whole-group instruction followed by individual practice. Classrooms are arranged with rows of desks facing the front of the room, limiting child conversation and focusing the attention on the teacher. In the late 1990s, it became more common to see tables and chairs for small

groups of children, or if there were desks, to see them arranged in clusters. For example, research on classroom arrangement revealed that while about a third of elementary classrooms in 1989 used a cluster model, 76% to 94% did by 2001. However, while teachers provided for more collaborative activities, there was still little child choice in many classrooms. Teachers continued to use primarily whole-group, teacher-initiated instruction with each subject taught separately. Learning centers, when used, were primarily folder activities allowing limited hands-on activity or deep engagement. Teachers often assigned children to groups and centers or used centers as a reward for completing seat work.

Today, several large initiatives are supporting a more collaborative, project-based instructional model consistent with constructivism. These include the Partnership for 21st Century Skills and the ASCD (Association for Supervision and Curriculum Development) Whole Child Initiative. Nineteen states are the leaders in implementing the 21st Century Goals. The goals stress the need for children to learn to think and work creatively with others; implement innovations; effectively communicate and collaborate; engage in critical thinking and problem solving; master core subjects; and gain information, media, and technology skills. In schools subscribing to this philosophy, an observer is likely to see learner-centered curriculum based on student needs and interests, curriculum where subjects are integrated rather than taught separately, project-based learning, collaborative groups, and space divided into learning zones.

ASCD's Whole Child Initiative is endorsed by more than 70 national organizations and several international groups. The focus is on providing environments and curriculum to support healthy children who are physically and emotionally safe, engaged in personalized learning, connected to the school and community, supported by responsive adults, and challenged and prepared for success. The approach stresses learning that is personalized, active, experiential, cooperative, and project based.

The Foundation

At the same time that national movements have been emphasizing constructivist approaches, there has also been an increased emphasis on ways that schools can improve test scores. As might be expected, child on-task behavior and engagement is linked to learning and better achievement test results. Both the learning and room design are linked to on-task behavior. In a recent large-scale study, elementary students included in the research were found to be off-task about 30% of the time. Previous studies show a range of 10% to 30% off-task behavior. Children were more on task when working in small groups, rather than when working in large groups at desks or when working individually. Children were also more on task when seated at the carpet than when at desks.

Many studies have also linked achievement test scores with school and classroom facilities, including air quality, noise level, lighting, temperature, and density or crowding. Significant links have been found between these variables and children's achievement, rate of illness, and attendance. Teacher retention and satisfaction is also related to these variables. Through classroom interventions, teachers can assist in ameliorating some of these. For example, since indoor air quality in schools has typically been found to be up to 100 times worse than outdoor air quality, teachers might open windows when possible.

Teachers can also influence density levels. High density levels negatively affect children's cortisol levels, social interactions, attention span, and achievement. Crowding is especially detrimental for children who have special needs or who experience crowded environments at home. Reducing density, and ensuring that there is enough open space for children to freely move and work, can improve test scores. Teachers can free space by decluttering, removing any items not currently in use, considering whether there is a need for a teacher's desk, and replacing horizontal bookcases with high bookcases where the top portion is used for teacher storage. Because most elementary classrooms are

smaller than the recommended 50 square feet per child, it is necessary to ensure that spaces are multipurpose. For example, the group gathering space might be used for movement and music during learning center time.

Ensuring children's physical needs are met can also increase achievement test scores. This includes providing for children's comfort through having soft areas, a variety of types of seating, different lighting options, the ability to move, and different degrees of privacy. Additionally, having readily available drinking water, snacks, and bathrooms in the classroom can add to children's comfort level.

Arranging Spaces for Student Engagement

To be effective, the room design needs to be consistent with the teacher and the school's philosophy of education and provide for child engagement and on-task learning. Teachers who support the constructivist philosophy, the Whole Child Initiative, and the Goals of the 21st Century would provide different types of spaces including a space for the whole group to gather. This space would contain needed technology equipment and be large enough for all children to easily see and be able to move around. There would be many areas to accommodate small groups and spaces for independent work such as carrels with headphones. Research with preschool children shows the value of having retreat areas. These encapsulated spaces allow children to escape the busyness of the classroom to calm down or engage in quiet contemplation or deep thought. They are especially important for children with sensory or attentional issues. When retreat areas are available, children interact more with peers, engage in less wandering behavior, are less aggressive, and display enhanced cognitive development.

Learning centers also assist in supporting the constructivist philosophy, the Whole Child Initiative, and the Goals of the 21st Century. While using learning centers, children engage in active inquiry and experiential learning. Choice, autonomy, self-regulation, and responsibility are vital

parts of the learning center model, with children having a choice of what centers to engage in, what materials to use, and whether to work alone or with others.

When the centers are well developed, children choose centers and materials that match their interests and development. Studies show that when children have choices of activities, they are more self-directed, have less disruptive behavior, and are more engaged in tasks. While children are typically given free choice, there may be required activities that children need to accomplish each day or each week.

When teachers view centers as a valuable learning opportunity, they dedicate enough time so that children can engage in in-depth work. Many experts recommend that this be at least an hour. Rather than being a reward for completing all seatwork, the centers are often used in place of a more traditional approach of learning that emphasizes completing paper-and-pencil tasks. The teacher is actively engaged in supporting children's learning as they use the centers. This includes observing, scaffolding learning, supporting peer interactions, acknowledging children, and assessing and documenting learning. When scaffolding learning, teachers might ask open-ended questions, provide additional information and materials, model new vocabulary, discuss concepts, or be a play partner.

Typical learning centers in the elementary classroom, include literacy (reading, writing, listening), social studies and project work, math manipulative, dramatic play, creative art and music studios, science lab, and an engineering and construction center. While each center is designed with a unique focus, as children use the center they are engaged in integrated learning. For example, children using a science center focused on density and buoyancy might be reading task cards, recording their predictions and their findings as they experiment with items that sink and float, and looking at books about buoyancy. Technology is infused throughout the centers. For example, a QR code might be placed in the music lab. When a child scans the code with a tablet,

he would see and hear a musician demonstrating ways to use a new instrument in the center. Another QR code might bring children to an Internet site that lets them compose their own music, choose an instrument to play the music, and hear the music played back. In addition, literacy and math are typically infused in every center. For example, the dramatic play grocery store might contain a cash register, play money, a scale, order sheets, and receipt books.

To be effective, learning centers should be changed and enriched to assist children to engage in deep learning. Whether establishing or changing the center, the teacher considers children's development, their interests, their culture, and the relevant learning standards. Effective teachers not only ensure that the materials represent the diversity within the group; they also expose children to additional forms of diversity. For example, the music area would contain a variety of types of music supplied by the children's families as well as different types of cultural music.

Learning centers often look different depending upon the grade level. For example, a kindergarten classroom might have a home living center for dramatic play while a second-grade classroom might have costumes and a stage. While large unit blocks with accessories might be found in a kindergarten engineering and construction area, LEGO robotics might be located in a third-grade engineering and construction area.

To reduce distractions and increase time on task, well-designed environments have boundaries between centers. These are created with such things as furniture, shelving, and portable low screens or by hanging sheer material from the ceiling. Research reveals that children are more deeply engaged in their activities and are less distracted when there are well-defined boundaries. In addition, they display more appropriate behavior, positive interactions, and cooperation resulting in teachers who are less controlling and more engaged in learning activities. Separating quiet (library) and active centers (construction) also enhances child engagement.

High-quality learning centers are stocked with an abundance of accessible hands-on learning materials and authentic, quality tools that provide for a variety of interests and developmental levels. The materials are well organized so that children can see their options and easily locate and return materials to the proper place. To assist in keeping children on task, all needed materials are located within each center. This might mean that some tools and materials are located in multiple centers. For example, colored pencils might be found in the art center, writing center, and science center. Materials are designed to be meaningful and interesting to the children.

Several early childhood theorists and approaches discuss the need to provide aesthetic and natural materials that provide a range of affordances or opportunities for learning. Materials are also more enticing and interesting when they are displayed aesthetically. For example, children can practice classification using a variety of different items including natural items such as pine cones, leaves, or seed pods. When choosing the items to classify, the teacher needs to consider the group and also the opportunities for the affordances that they provide. When children sort seed pods, they also have the opportunity to learn more about the trees and bushes in their local area. Their observation skills increase as they see the differences that exist among the same type of pod. Rather than the plastic sorting trays found in many programs, theorists such as Maria Montessori and Loris Malaguzzi (the inspiration behind the Reggio Emilia-inspired approach) would recommend using beautiful glass, wooden, or metal sorting trays. Using beautiful materials shows respect for children, adds to the aesthetics of the room, and often results in children treating the materials with greater care.

Affordances also need to be considered for each activity added to a center with teachers asking themselves what additional materials will increase children's learning opportunities. For example, adding journals, writing materials, and magnifying glasses can increase the affordances of a butterfly garden.

Teachers also need to carefully consider what is on the walls. What is displayed provides an immediate message about what and who is important. Wall space can effectively be used to display children's ongoing and completed work; photos of children, teachers, and families; and informational and inspirational posters. However, when walls become too crowded with materials they become distracting and ineffective. For example, a study examining kindergartners engaged in a science activity found that they were more attentive and learned more when the room was less distracting. Colorful borders and catalog-purchased cutouts, a hallmark in many primary classrooms, can add to the visual stimulation. Instead, the walls should be personalized for the learners. One way teachers do this while still limiting visual bombardment is to use child-created materials and posters. For example, rather than commercially purchased ABC cards, children might create an alphabet by taking photos of environmental print or of natural items shaped like an alphabet letter.

When planning wall displays, teachers need to carefully consider the purpose and the size of the display as a way to reduce visual clutter. Likewise, most design experts recommend avoiding brightly colored rugs, storage containers, and shelving and instead using more neutral and natural colors.

Individualized storage for children's and adult's possessions, work, and treasures is needed. Storage to replenish and rotate materials is also important. However, classroom storage should be saved for items that are frequently used. If possible, storage for infrequently used items and items purchased in bulk should be stored outside the classroom. To reduce visual stimulation, adult storage can be enclosed with doors, curtains, or bamboo roll-up shades. Storage is also needed to support ongoing project work, a place to showcase and to store two-dimensional and three-dimensional works in progress.

Effective teachers using the learning center model also consider how the entire room provides a welcoming and engaging atmosphere. Lighting, flooring, shelving, and displays all contribute to

the ambiance. A welcoming, effective room is clutter free, aesthetic, personalized, and filled with interesting, challenging, and engaging materials.

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See also Constructivism; Inquiry; Play and Early Childhood Education; Primary Grades; School of the 21st Century (21C)

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PRIMARY GRADES

The field of early childhood education formally embraces programs and practices for children from birth through age 8, or third grade. Research-based knowledge about how young children develop and learn makes a convincing case for capturing the early elementary grades within the birth through age 8 programming continuum. As Jack P. Shonkoff and Deborah A. Phillips have observed in their research on child development, the ages of 6 through 8 years are a critical period for children's brain development. As is true for younger children, primary-grade children's development and learning are inextricably interrelated across multiple domains. Indeed, there is a growing body of research to support the conclusion that progressions of learning and development that begin in children's earliest years extend through the primary grades. It is important for primary educators to be intentionally responsive to these developmental perspectives on children's learning if they are to provide optimal experiences that pave the foundation for children's ongoing educational success and well-being. Still, this vision of a cohesive early childhood programming continuum that actively incorporates the primary grades has yet to be fulfilled in reality. This entry examines why kindergarten and the primary grades have frequently been excluded from the theory and practice of early childhood education. It further examines why early childhood educators

and researchers are increasingly turning their attention to children from birth through third grade. The final section of this entry outlines key practice areas for primary educators.

The Status of the Primary Grades in Early Childhood Education

In practice, early childhood education has focused most fully on the birth to 5-year age range, emphasizing developmentally based approaches for serving infants, toddlers, and preschool children. Kindergarten, historically conceived as a child-centered bridge into elementary school, has been increasingly shaped by primary-grade practices and has reportedly become "the new first grade" with more time on academics and less time on play, exploration, and socialization, as is also the case across all the primary grades. In addition, the primary grades typically function as separate grade-level units with little consideration for the flexibility and continuity of learning experiences that are required to fit the developmental patterns of young children as they transition from one year of early elementary school to the next.

Gaps in fully embracing kindergarten and the primary grades as the critical upper end of the birth-through-age-8 early childhood continuum reflect complex differences in traditional program settings, funding streams, governance systems, grade-level structures, and accountability pressures of early care and education services for young children of varying ages. At a deeper level, in early childhood education, birth to age 5 and kindergarten to third grade reflect differing professional cultures that include contrasting expectations for children, terminology, approaches to teaching and learning, and relationships with families. Primary-grade educators' strength is typically rooted in content-area teaching. By contrast, early childhood educators who focus primarily on children from birth to age 5 tend to demonstrate greater understanding and support for children's social and emotional development, including their approaches to learning. Both groups have much to learn from each other's strengths. Both groups likewise share

challenges that must be collectively addressed if we are to actualize the vision of continuity and quality across children's early education experiences from birth through the primary grades.

Renewed Focus on Primary Grades as Early Childhood Education

Professional consideration of the primary grades has shifted as views of early childhood education have become more comprehensive and inclusive of the full continuum from birth through third grade. New frameworks for birth through third grade, often referred to as P-3 or PreK-3rd, are focusing attention on the critical importance of the primary grades, guiding educators and policy makers to shape renewed primary grade approaches and practice guidelines. These frameworks share many elements in common. Notable among these are calls for greater alignment of children's learning experiences from pre-K (or younger) through the primary grades; balance among child-initiated and teacher-guided instructional approaches; a more holistic focus on cognitive, academic, and social-emotional learning; well-rounded enriched curricula; and collaborative family engagement.

As efforts to align and transform young children's learning opportunities across birth through age 8, and particularly across preschool through the primary grades, PreK-3rd initiatives have been spurred by contemporary challenges. Greater numbers of young children attend school as prekindergarten programs expand, and the linguistic and cultural diversity of the young children who are enrolling continues to increase. The most influential challenges, however, are the unabated disparities in learning outcomes for low-income, African American, and Latino children. Not only do these disparities show up very early in children's lives; they often widen as vulnerable children progress through the primary grades. According to research by the Institute of Educational Studies, for example, by the fourth grade only about one-fifth of African American and Latino children and less than one-half of White children read at or above grade level. These data place a spotlight on the

primary grades for the important role they must assume in preventing and reducing opportunity and achievement gaps. As Lisa Guernsey and Laura Bornfreund (2015) observe, "early childhood education doesn't end with pre-K" (n.p.).

The promising news is that research and practice innovations highlight the opportunities that focused attention to the primary grades support children's developmental and educational success. For example, Arthur Reynolds's rigorous, longitudinal research on the Chicago Child-Parent Centers, a preschool through third grade program for children at high risk, has shown greater long-term impact for children who participated through third grade as compared with children participating in preschool only. These impacts included substantially improved achievement of on-time high school graduation. Case studies from notable public school district efforts, such as Montgomery County, Maryland, and Union City, New Jersey, likewise demonstrate the impact of including the primary grades in systematic efforts to employ early childhood education as a foundation for transformative school reform. In these and other exemplars, researchers and district leaders cite the continuity of learning from preschool through third grade, consistent and challenging curricula across the primary grades, and sustained family engagement as key levers for effectiveness.

What Matters Most for Primary Grade Instruction

As the primary grades are folded into considerations of early childhood education to be regarded as an investment in children's optimal development and learning, researchers and program leaders are asking the same question: What matters most for high-quality, effective early education practices, particularly for children placed at risk? In general, the conclusions for the primary grades are similar to those that emerge when the lens is placed more narrowly on preschool education. There is no unitary instructional approach that marks an effective primary classroom. Rather, diverse instructional approaches such as guided

instruction; direct teaching; child-initiated inquiry; or play and diverse formats such as whole-group, small-group, or independent learning serve children best when they are used in intentional, balanced combinations. The key is that all instructional approaches are constructed based on a child developmental perspective.

Beyond balance, a research-based practice imperative that also remains constant regardless of instructional approach is the presence of warm, responsive teacher–child relationships and stimulating two-way interactions. Indeed, strong, emotionally supportive teacher–child relationships coupled with extended learning-focused interactions are necessary to promote active engagement and high levels of learning for all children in the primary grades. Not surprisingly, these interpersonal elements of practice demonstrate even more compelling evidence for their gap-closing importance and for serving a critical function in the engagement and educational success of low-income children and children of color during their early years of schooling. Placing a priority on interpersonal relationships and interactions as central channels for teaching and learning may require a mind-set shift among many primary teachers given their prior experience and preparation.

The science of child development and early learning also points to additional high-impact elements that characterize effective primary grade practices when applied within the context of balanced instruction and supportive teacher–child relationships. These research-based elements that span variations in specific instructional approaches and content area emphases include four key practice commitments:

1. *High-Quality Language Environments.* In effective primary classroom environments, oral language and deep vocabulary development are promoted as foundations for conceptual knowledge and reading comprehension. Interactive conversations and extended discourse with teachers and peers are the norm, with children having abundant opportunities to engage in purposeful talk throughout daily routines and learning experiences.
2. *Focus on the Whole Child.* First and foremost, a whole child focus means that explicit strategies to support children’s social and emotional competence are embedded within primary grade practices and instruction. Teachers scaffold children’s emerging development of self-regulation and productive peer relationships. Similarly, children’s emotional and behavioral challenges are interpreted as expressions of what children need and as opportunities to provide instruction and support in reducing children’s stress.
3. *Intellectual Rigor.* In high-quality primary classrooms, the curricula in use evidence rich content that is balanced across subject-matter areas, and take into account developmentally informed learning sequences. Children are taught skills and basic content knowledge, but are also intentionally engaged in higher order thinking, problem solving, and inquiry that is facilitated through teacher–child interactions and scaffolding. Children are given opportunities to be not only question answerers, but also question askers. Rather than just learn about math, science, social studies, art, and other subject areas, they become mathematicians, scientists, sociologists, and artists.
4. *Cultural and Linguistic Responsiveness.* Relationships, knowledge of early childhood development, and understandings of content that go beyond the standards are obviously core ingredients of effective primary grade instruction. Primary grade classrooms that magnify the power of school-based learning to reach each and every child, however, also value children’s home culture, language, and background knowledge as resources. Teachers in these classrooms actively seek out insights into children’s and families’ funds of knowledge and use these insights to build inclusive classroom learning communities.

Renewed attention to the primary grades poises early childhood education to make a significant impact in reducing and eliminating opportunity and achievement gaps that persist beyond preschool. More than this, a commitment

to high-quality practices in the primary grades that build upon the early childhood learning continuum can bring new levels of excellence and inspiration to the education of all children. The realization of this vision is within reach as early childhood educators and researchers look across professional divides to apply the best of what is known about young children's learning and development, content, and instructional practices.

Christine B. Maxwell

See also Approaches to Learning; Classroom Processes; Curriculum and Early Childhood Education; Differentiation; Early Childhood Education; Warm and Responsive Interactions

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PRINCIPALS, ROLE OF

Principals come to their leadership roles with a wide variety of backgrounds. These individuals have received graduate degrees that enable them to assume the role of principal. Some individuals may have had preparation as PreK–3 teachers; however, others may have had preparation to teach older elementary students, middle school students, or even high school students.

The path to the role of principal varies from setting to setting. Rural settings may have very different administrative configurations than urban settings have. The number of students enrolled in a rural district often dictates the number of administrators in a district as well as the individual who will be responsible for the early childhood program.

A review of the states' department of education websites provides an example of differences that exist from state to state. An examination of administrative certification practices in the 50 states in 2014 revealed many differences in the availability and specificity of administrative certificates. According to individual websites for each of the 50 states, 16 states had administrative certification available for Grades K–12 and eight states had administrative certification available for Grades PreK–12. Some states did not indicate grade levels for administrative certification or did not indicate a listing for any administrative certification at all.

The Interstate School Leaders Licensure Consortium (ISLLC) Standards for School Leaders specify the knowledge and skills necessary for district and school leaders to build teams of teachers and leaders that improve student learning. The standards were first developed in 1996 and revised in 2008 before another revision on them began in 2014. The ISLLC standards are a project of the Council of Chief State School Officers (CCSSO) in partnership with the National Policy Board for Educational Administration (NPBEA). CCSSO and NPBEA, with support from the Wallace Foundation, engaged in the 2014 ISLLC Leadership Standards Refresh Project. As of May 2015, they were seeking additional public comment on the revised draft standards.

The primary goal of the standards is to articulate what effective leadership looks like in the public education system. The standards are designed to be used by all education leaders.

In the draft format, the standards include vision and mission, instructional capacity, instruction, curriculum and assessment, community of care for students, professional culture for teachers and staff, communities of engagement for families, operations and management, ethical principles

and professional norms, equity and cultural responsiveness, and continuous school improvement. Each of these standards pertains to the role of a principal who has responsibility for early childhood education.

For instance, the principal needs to be able to articulate the vision and mission of early childhood education. The principal must be able to promote the academic, social, and fiscal benefits of early childhood education to all of the school's stakeholders. The principal needs to "know the facts"—the educational and economic benefits of an early investment in early childhood education. The principal needs to be able to report the indicators of the impacts early childhood education has had in student achievement.

The principal is responsible for achieving high-quality programs in the school. The quality indicators for early childhood education should be evident in the school. The principal must enhance instructional capacity by recruiting and hiring teachers and staff who have specific training in child development, early childhood education, and expertise in subject matter such as literacy, math, science, social studies, physical education, and the arts. Professional development opportunities must be tailored to meet the needs of the teachers and staff members. A principal who has the opportunity to hire teachers for early childhood positions should seek individuals who have specific preparation in child development and teaching children in PreK–3 settings.

A principal should emphasize child development and learning by providing continuing education opportunities for teachers and staff members. School-sponsored events focused on child development and learning may be helpful to families. As a spokesperson for early childhood education, the principal can use speaking opportunities to inform the community of the importance of child development and learning.

In the early childhood setting, group sizes are small and adult-child ratios should maximize individualized learning opportunities and experiences for the children. The learning environment is well organized, safe, and healthy, and designed to

accommodate the ways young children learn. Families' involvement in their children's education is emphasized.

The principal should involve early childhood teachers, as well as teachers of other grades, in school conversations, planning, and decision making. The principal demonstrates administrative support of the early childhood program by regular visits to classrooms, observations of classrooms, feedback to teachers and staff members based on the visits, and regular evaluations of teaching. The principal's presence in the teaching and learning environment is an endorsement of early childhood education.

Teacher turnover is a persistent issue and a principal's concern. The principal's task is to create a satisfying teaching environment. Teachers must be recognized for their contributions and successes. The principal should encourage teacher growth and development opportunities. Working conditions must be examined in order to reduce frustration with issues such as teacher isolation, working conditions, or the structure of the school day. The environment should be designed as the best teaching and learning setting possible for students and the teachers.

The principal needs to be knowledgeable about developmentally appropriate practice (DAP) when talking with teachers and staff as well as when making decisions about programs. The principal can provide opportunities for teachers to meet and discuss age appropriateness, individual appropriateness, and social and cultural appropriateness. The principal should observe evidence of DAP in classrooms and discuss the teachers' DAP-related knowledge and skills.

The principal needs to know how young children develop. Attendance at professional meetings that focus on early childhood development and early childhood education is essential for the principal who is responsible for leading early childhood programs. Reading professional journals that focus on early childhood is another approach to acquiring greater knowledge of the topic. Publications by the National Association for the Education of Young Children (NAEYC) such as

Young Children are useful sources for professional development. The National Association of Elementary School Principals (NAESP) 2014 publication *Leading PreK–3 Learning Communities: Competencies for Effective Principal Practice* is essential reading for the principal who leads an early childhood program.

Observation of young children in classrooms and outdoors increases the principal's experience, knowledge, and insight into the development of young children. Time spent observing the teaching practices of experienced early childhood specialists helps the principal gain a greater understanding of the skills and strategies used to enhance learning in the early childhood setting.

Family involvement is critical to the success of early childhood education. The principal's role is to design an environment that is welcoming to all of the family members in a young child's life. The principal must anticipate the feelings of family members about coming to school and consider the past experiences the adults may have had in school settings. Parents need to experience value in coming to their child's school. With this in mind, the school should provide opportunities for family involvement and serve as a source of information about how families can become involved in their child's learning experiences. Information about community resources for families should be available as well. Teachers and staff should be reminded of their primary importance to the families since it is these professionals who have the greatest amount of personal contact with the young children.

Marilyn L. Grady

See also Early Childhood Education; High-Quality Early Education, Long-Term Benefits of; Leadership in Early Childhood Education; Transforming the Workforce; Transitioning

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PROFESSIONAL DEVELOPMENT FOR DIVERSITY

As the United States' population becomes more diversified and heterogeneous, there has been increased professional awareness about the importance of understanding diversity in education. Specifically, there has been an increased recognition of the need for educators with cross-cultural competence and the ability to address the needs of children from diverse backgrounds. Research and policy inform us that policy makers, personnel in higher education institutions, and school and early care and education program staff must take professional development in diversity very seriously. However, meaningful, effective training and ongoing professional development in diversity continue to be lacking. This entry examines the impact of changing demographics in U.S. classrooms and some of the challenges faced by educators, administrators, and policy makers as a result. This entry further discusses the need to intentionally and systematically integrate cultural, linguistic, socioeconomic, and ability diversity (CLAD) in teacher education programs and in-service professional development as a means to support quality educational experiences for diverse student populations in order to reduce the achievement gap. Additionally, some promising and innovative preservice and professional development programs in diversity are presented.

The Changing U.S. Demographic: Implications for the U.S. Educational System

The United States' demographic trend has been undergoing substantially rapid cultural, racial, linguistic, socioeconomic, religious, and generational change due to fertility patterns, migration, and immigration. In many U.S. counties today, over 50% of the population is made up of linguistically, culturally, and socioeconomically diverse families. The U.S. Census Bureau has projected that by 2050, non-Hispanic Whites will make up less than half of the population, while the Hispanic and Asian populations will more than double and combined will make up about a third of the population. Demographic trends predict that the United States will be a country with a highly diverse population. The changing demographic trend has implications for the early care and education system, its policies, and classroom practices.

As the general population diversifies, so do American classrooms. The National Center for Education Statistics has projected that public school enrollment in prekindergarten through Grade 8 will increase to 37.6 million students in 2024–2025, up 7% from the 35 million enrolled in 2012–2013. A similar trend is also evident in early learning programs as more mothers are employed outside of the home. In their *Child Care in America 2012 State Fact Sheets*, Child Care Aware of America reports that 11 million children under age 5 were in some type of child care arrangements. This number continues to increase exponentially each year for young children from multicultural backgrounds. One stark implication of the U.S. demographic change is the wide and deepening achievement gaps between White and minority students and the low graduation rates for CLAD students compared with White students. With rapidly increasing numbers of diverse children in early care and education programs, state policy makers, program leaders, and higher education institutions must ensure that teachers and teacher educators are well grounded in understanding diversity and in meeting the needs of all children.

Barriers to Professional Development for Diversity

Training in diversity has become more critical for early childhood education professionals because American families have become increasingly diverse and complex recently. One out of five children in the United States lives with at least one parent who was born in a country other than the United States. An increasing number of children in early learning programs and school systems are recent immigrants, most of whom are English language learners. Many teachers believe that they lack competencies to best meet the learning needs of all children and to authentically partner with their families. Early educators need knowledge, skills, competencies, and dispositions to work effectively with diverse students and their families.

There is compelling evidence that teacher professional development for understanding diverse children and families not only benefits teachers but also improves program quality and child outcomes and has the potential to close the achievement gap. Unfortunately, national and local barriers (institutionally and interpersonally) exist in the pursuit of professional development in diversity. These barriers include persistent lack of public understanding that professional development on diversity does make a difference. The lack of state policies regarding understanding of diverse children and families, inadequate professional development content and delivery methods, and lack of awareness of or access to professional development in diversity continue to exist. There is uneven attention to diversity content in higher education teacher preparation programs with some professional preparation programs strongly emphasizing social justice issues and others providing only a superficial introduction to an anti-bias approach. Financially strapped programs complain of lack of funding for professional development, and early learning professionals, juggling work-life balance, indicate that they have precious little time for ongoing professional development. As a result, continuing education is often disregarded. To ensure that early educators are best able to meet

the needs of all learners, it is necessary to look at ways that these barriers might be eliminated and more meaningful diversity content and effective delivery methods be put into place.

Inadequate Formal Training and Professional Development on Diversity

Since the 1990s, diversity and cultural competency have evolved from being buzz expressions to something of critical importance in education. Early educators acknowledge that dealing with diversity is a major challenge today. They also admit that all preservice and professional development programs must equip teachers with the skills and competencies to effectively work with all children. As noted by Linda Darling-Hammond and Silvia Paloma Garcia-Lopez (2002),

To teach effectively, teachers need to understand how learning depends on their ability to draw connections to what learners already know, to support students' motivation and willingness to risk trying and to engender a climate of trust between and among adults and students. (p. 9)

However, many teachers believe that they are not well prepared to teach children who are from cultural and linguistic and socioeconomic backgrounds different from their own. While many states and preservice programs have made some progress in addressing diversity in program standards and curriculum, intentional integration of cultural, linguistic, socioeconomic, and ability diversity into educational pedagogy and professional development for teachers and meaningful field experiences are inadequate.

A study by the Center for Research on Education, Diversity and Excellence (CREDE), which took place from 1996 to 2011, reveals that integration of diversity into preservice and in-service programs is quite minimal. Among other things, the report recommends the complete infusion of cultural, linguistic, socioeconomic, and ability diversity into programs. A 2006 study of 662 teacher training programs by Aisha Ray and Barbara Bowman also confirmed CREDE's conclusion that minimal

attention was given by teacher education programs to diversity content. The study revealed few hours of coursework, no specific strategies, and little practice time given to teaching preservice students how to effectively work with diverse students and families, hence providing an explanation about why teachers feel unprepared to support the learning of diverse children even after taking relevant college courses or professional development. Aisha Ray, Barbara Bowman, and Jean Robbins, in the executive summary of the study of 226 colleges and universities, report that of the 226 preservice programs examined, “only 7 percent of Bachelor Degree programs indicate that they expect future teachers to have an experience in which they will be exposed to diverse children” (p. 1). Many trainings lack specific strategies in working with diverse children and families and experiential learning opportunities in diverse communities.

Promising Strategies for Diversity Training and Professional Development

Rapidly changing American demographics continue to pose significant challenges to early learning systems to equip teachers with CLAD competencies and skills to work in the ever expanding cultural context of U.S. classrooms. There must be an understanding of how culture, language, and ability differences influence the way that children view and interact with their world, and how children behave and learn. CLAD principles and competencies must be systemically infused into core curricular content and pedagogy at all levels of educator professional preparation as well as in institutional and organizational practices. In her capacity as higher education manager at the Pennsylvania Key, having recognized the need of incorporating diversity training as an integral part of preservice education, Bernadine Ahonkhai recommended the provision of high-level professional development on diversity for education faculty and instructors. Under her leadership, from 2008 through 2011 the Pennsylvania Office of Child Development and Early Learning

(OCDEL), in collaboration with the Pennsylvania Key, launched the Pennsylvania Higher Education Institute on Diversity. The institute provided evidence-based models, strategies, and best practices for diversity-infused preservice teacher education programs and professional development offerings. Such promising professional development initiatives have the potential to yield transformative effects on teacher educators in increasingly diverse educational settings and prepare teachers to be more effective in their work with all children and families, regardless of their backgrounds.

A 2008 survey of teachers by Earl Thomas and David Lamont Bell revealed that diversity training implemented in a nonthreatening, nonjudgmental environment with supportive opportunities for teacher reflection and practice has the potential to foster a change of attitude and practice among teachers and teacher educators. Professional development is more effective when it is presented not as a single event, but as an ongoing learning opportunity to acquire knowledge, competencies, and dispositions to improve one’s ability to effectively foster children’s development and learning and also to grow as a professional in an ever changing early education environment. Being an effective professional in today’s diverse early childhood programs requires learning new patterns of behavior and successfully applying the skills in cross-cultural interactions with diverse students and their families. Educational leaders and policy decision makers should emphasize the critical importance of ongoing participation in professional development on diversity by teacher educators and teachers in order to achieve this dual goal.

The Teaching Case Method, Simulation Model, and Role Play

Teachers play the most critical role in the education of young children. They have a significant impact on children’s learning, development, and academic success. Research has revealed some barriers in the pursuit of professional development on diversity. Foremost among the barriers is the lack of structured, focused diversity teaching strategies and

inadequate robust diversity content. Recently, some innovative and promising professional development strategies on diversity for teachers and teacher educators have been developed. Harvard Family Research Project's (HFRP) use of race, ethnicity, culture, and class as the context for its teaching case model on diversity has proven to be a powerful training method, beneficial to both students and instructors. Teaching cases present opportunities with a menu of different activities beyond the case discussions. The use of "live cases" similar to a guest speaker or someone from the local community who can speak firsthand on diversity issues provides a rich platform for professional development in cultural, linguistic, socioeconomic, and ability diversity issues.

The teaching case scenarios are structured around various cultural and ethnic groups with stories that offer real-life experiences to participants. The teaching case model can generate lively discussions as participants critically rethink their assumptions about those who are from different cultural backgrounds than their own. Students explore their individual identity, consider multiple perspectives, and continuously self-reflect and evaluate their cultural biases and assumptions. The teaching case model has the ability to foster teachers' attitudinal and classroom practice changes, improve the overall school climate, and enhance students' academic performance. Research-based teaching cases help educators connect theory and research to classroom practice by reflecting critical issues in family-school relations, especially with culturally diverse families and those who live in poverty. The cases provide learning experiences that will help educators communicate, build relationships with diverse families, and facilitate learning in CLAD classrooms effectively, equitably, and nonjudgmentally.

Teaching case methods should, however, be combined with enriched classroom activities, discussions, and simulations in which students and families engage in face-to-face interactions or online with virtual families in a safe, nonjudgmental, noncritical space. Such simulation models (e.g., Head Start simulation model) allow teachers to practice interaction with families and encourage active listening, mutual

sharing of information, and respectful relationship building. Simulation models can be used individually or as a group with opportunities for reflection. Role playing is another strategy that has been found to be quite effective in teaching how to work with CLAD students and families. The use of role playing, like simulations, to practice interactions with families should also be conducted in a safe, nonjudgmental environment. Virtual families and members of the local community who experience diversity-related issues (a teacher, principal, or other community members) can be incorporated in the "live cases" for the teaching-learning experience to be meaningful and beneficial.

Diversity Resources and Supports for Teachers and Teacher Educators

Challenges relating to diverse children and families in U.S. classrooms have been acknowledged by educators as one of the most pressing issues in early childhood education today. Supporting teachers in their efforts to provide thriving environments for all children and students to learn and develop to their full potential requires a multifaceted approach. Educators who are engaged in meaningful, ongoing conversations about teaching and learning and the impact of children's cultural, linguistic, socioeconomic, and ability backgrounds on their behaviors, development, and learning will find greater success than those who pay little attention to CLAD differences. To help educators sustain the competencies acquired in their learning environments, including the use of current resources on diversity, continuous support and feedback from supervisors or administrators should be provided to educators on an ongoing basis. Such practice can foster a strong sense of confidence in educators, thus supporting them to become increasingly effective in their work with all children and families. Growth in diverse student populations in U.S. classrooms demands that teacher educators, teachers, and caregivers become CLAD competent in facilitation of learning in multicultural environments. Preservice education should systematically integrate CLAD content into the curriculum and pedagogy and include meaningful field-based

experience in diverse classrooms. Diversity training and professional development should not be a one-shot deal with limited or no follow-up opportunity. It should be offered on a continuous basis in order to foster a powerful school culture and climate, and promote a learning community whereby educators can share information and bounce ideas and problems off each other. Professional development in understanding diversity helps to expand educators' understanding of diverse student populations, social justice issues, and intentionally responsive teaching in increasingly CLAD settings. A well-focused and high-quality diversity professional development program based on innovative and promising models, such as the Pennsylvania Higher Education Institute on Diversity, the teaching case model with real-life issues and experiences, simulation models, or role playing, and active, open-minded participants, can lead to changes in educator attitudes and classroom practices.

Bernadine E. Ahonkhai

See also Anti-Bias Education Theory; Cultural and Linguistic Responsiveness; Cultural Competence; Cultural Diversity; Diversity in Early Childhood Education; Early Childhood Teacher Education; Ethnic Differences and Families; Language Diversity; Multiracial Families

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PROFESSIONAL DISPOSITIONS OF EARLY CHILDHOOD EDUCATORS

Professional dispositions are the tendencies to think and act in certain ways that are valued by the field. Professional dispositions go beyond knowledge and skills; they are not just beliefs and they are not just actions. Professional dispositions are vital because they become a way of being for a professional that affects the why, how, and what one does as an educator. Dispositions have also been referred to as habits of mind. This entry first provides a more detailed examination of professional dispositions with an example that illustrates how building dispositions is an interactive and ongoing process. Next, it examines ways to develop professional dispositions. It concludes with a look at the benefits of such development.

For early childhood educators, professional dispositions are the thinking and doing that inform or drive their practice of teaching, caring, and leading. Professional dispositions for educators may include cognitive processes such as exploring, examining, analyzing, reflecting, and documenting different teaching and learning aspects. These dispositional processes may also include the intentional bumping into an event or belief that provokes a need to resolve one's own disequilibrium about a learning event. Over time, these processes lead to professional dispositions in which the educator is responsive and intentional, as well as an advocate for each and every child.

When moving beyond one's own educational setting, whether it is the classroom or a childcare facility, professional dispositions also may involve the careful observations of one's colleagues and providing interactive feedback, supporting and involving families, being involved in the field, and continuing to grow and develop as a professional. Basically, professional dispositions move from personal to professional, first in one's local setting and then to wider leadership settings.

Professional Dispositions Influences

Professional dispositions interact with and are shaped by context, practices, documented evidence, beliefs, theories, and time (see Table 1). As a result, they are highly personalized and contextualized. An example derived from observations and conversations across different settings is provided below to help illustrate this; pseudonyms are used to preserve confidentiality.

Professional Dispositions Example

Ms. Lucia is standing in the mulch surrounding the picnic table, observing Sloan (3.5 years of age). Sloan has climbed onto the picnic bench and is standing up. She steadies herself with her hand on the tabletop. Eventually, Sloan climbs onto the top of the table and stands with her arms extended for balance. While not saying a word, Sloan has a huge smile on her face. Ms. Arya (who is Ms. Lucia's coteacher) walks over at this point and asks why she hasn't told Sloan to get down because it "isn't safe." Ms. Lucia just replies, "It's okay. I'm right here with her." Ms. Arya walks away visibly upset.

As soon as the children are settled down for their naps, Ms. Lucia joins her coteacher for planning time. While she is walking to the resource room, she wonders if she should bring up the incident with Sloan or if Ms. Arya will. Ms. Lucia doesn't have to wonder for long because the first question Ms. Arya asks is "Why were you letting Sloan break the playground rule? We don't climb on the picnic table." The following discussion ensues:

Ms. Lucia: Sloan tends to be particularly timid regarding more physical activities. Today, she was taking a real risk climbing on the table. I wanted to support her risk taking through careful observation and close proximity rather than redirecting her to someplace safe, which is Sloan's usual mode of operation.

Table 1 Professional Dispositions

<i>Professional Dispositions Related to Teaching and Learning</i>	<i><= Interact With =></i>	<i>Personal Dispositions Needed for Teaching and Learning</i>
• Reflecting • Analyzing • Grounding or informing work through research and/or theory • Bumping into and resolving aspects of disequilibrium • Bringing it all together—making sense • Exploring • Documenting evidence of the teaching/learning process • Learning from a community of learners that involves talking, listening, and observing • Being responsive and intentional • Being an advocate • Supporting and involving families • Being involved in the field • Continuing to grow and develop as a professional	1. Contexts: Social and cultural experiences of children and families 2. Practices: Daily interactions with children on social, emotional, and intellectual issues 3. Documents of Planning and evidence of learning 4. Beliefs, philosophies, and theories 5. Time and Effort for continual learning and explorations	• Confident • Open to new ideas • Cognizant, intentional • Valuing the inherent worth and dignity of each and every child • Caring • Inventive • Problem solving • Persevering

Ms. Arya: So what does it mean to have a rule? Won't the other children learn that rules can be broken with no consequences?

Ms. Lucia: Interesting point. No one else joined her on the table. So, I wonder if they noticed and if so, what they thought. Let's ask them at the closing circle time today.

Ms. Lucia is satisfied with the decision to ask the children but still wonders about Ms. Arya's question about rules. When should they be broken? Who gets to decide when a rule can or cannot be broken? She decides to call her mentor to talk about this more. During their phone conversation, her mentor asks questions as a way to provoke self-reflection and analysis. Some questions asked were: What do you think about your decision to attend to Sloan's behavior by

observing and staying in close proximity? Do you think that communicating more about your thinking would have helped Ms. Arya understand better "in the moment"? What does it mean for the teachers, the group of children, and established policies/practices to attend to an individual child's development? When there are conflicts between those aspects, who decides what route to take (one adult, a collaborative team, an adult leader, the children)? What else can be done to help Sloan develop confidence in her physical self?

While the questions were not resolved during their conversation, both Ms. Lucia and her mentor agreed that bringing up the situation next week at the monthly meeting of the entire preschool teaching team and their mentor was a great plan. The goal was to engage all of the professionals in this dilemma, as a way to make sense of this complex situation through multiple perspectives.

Analysis of Professional Dispositions Example

Ms. Arya's professional disposition (or way of being) was seeing and analyzing the context from the point of view of a "safety at all costs" advocate, along with a practice that models and values following the rules. Ms. Lucia's professional disposition (or way of being), on the other hand, was seeing the situation from her own beliefs about how to help the children grow. For Ms. Lucia, this meant that she needed to be open personally to investigating new ideas and watching for learning moments over time, while simultaneously monitoring and providing a safe environment for the children's learning explorations.

Both teachers were engaging in profession dispositions that allowed them to dialogue in order to understand the situation and the decisions that were made. Neither person just agreed to disagree, nor did they discount the other's perspective. For Ms. Arya, this incident bumped into her personal and rule-based sense of a safe play environment. As a result, Ms. Arya approached this dialogue as an opportunity to problem solve by attempting to remind or build consensus with Ms. Lucia about the established rules of safety as a necessity for learning. Ms. Lucia, on the other hand, bumped into the idea that there may be multiple ways of thinking about the situation. Initially, she took this situation as a way to intentionally value Sloan. But she found that she personally needed to be open to others' ideas. More specifically, she approached the dialogue with Ms. Arya, and subsequently with her mentor and the other teachers, as way to continue her own growth as an educator by seeking input and multiple perspectives. It was not for validation or reprimand; rather, it was for an opportunity to understand the situation better and to think about it in relation to future opportunities for children like Sloan.

Development of Professional Dispositions

Developing Professional Dispositions Through Personal Engagement

Being a high-quality early childhood educator is not a passive endeavor. It requires an active

approach to develop professional and personal dispositions that are valued by the field. As discussed previously, professional dispositions are critical to one's practice. However, positive personal dispositions are needed, as well. These personal dispositions may include processes, such as being persistent and persevering, problem solving, confident, open to new ideas, caring, and inventive.

As a way to develop professional and personal dispositions, early childhood educators can do the following:

- Seek information about contextual impacts on development and learning.
- Ask questions and seek answers through readings and mini investigations (for example, gather classroom data to help answer questions).
- Document their own and children's learning.
- Analyze situations and interactions to better understand the children involved.
- Set aside time each day to reflect on children, families, or the teaching-learning process.
- Share successes and challenges with others.
- Learn something new each day to personally improve themselves—not about teaching or children.
- Question their own beliefs and actions, looking for consistencies and inconsistencies.
- Advocate for children, families, and their own program's policies that support them.

Developing Professional Dispositions Through Collaborations

Teachers should not work in isolation; rather, they should move beyond their personal classroom to engage as a member of a community of learners. As a way to further their professional development of dispositions, they can encourage their colleagues to do the following:

- Push their thinking.
- Provide alternative interpretations.
- Observe others' teaching and have others observe their teaching; debrief.
- Engage in dialogue over common readings (books, scholarly articles).

- Advocate in greater community regarding the profession.
- Meet on a regular, continuous basis.

Developing Professional Dispositions Through Mentorship

Teachers should not limit their communities of learners to their immediate colleagues. They should seek out other professionals in the field who can mentor and help them to move to the next level.

Educators should seek out a mentor who is willing to do the following:

- Provide an outside perspective or additional resources.
- Give more one-on-one feedback.
- Challenge and help the teacher make sense about the interaction of the teaching–learning process.
- Ground the situation in theories of development and learning.
- Push, provoke, and help them wade through tensions and new understandings.
- Document and share the process of the teachers’ learning with the profession.

Benefits of Developing Professional Dispositions

Ultimately, professional dispositions lead early childhood educators to actively construct the meaning of their work and of their individual identity and voice as a teacher. The impact of finding such meaning is multifaceted in that it opens up space for questions about one’s teaching in a non-threatening manner; it provides a lens or way of viewing the children that affects the why, how, and what one teaches; it opens opportunities for more teaching and learning possibilities and flexibility; and it pushes a way of thinking and working that values the inherent worth of each and every child. In addition, these professional and personal dispositions are vital for modeling the learning dispositions and processes that children need.

Terri Jo Swim and Alice H. Merz

See also Professionalism; Reflective Practice; Reggio Emilia Approach; Reggio Emilia Approach, Role of the Arts in; Strengths-Based Education and Practices; Teacher Beliefs

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PROFESSIONALISM

Professionalism means having and exhibiting the knowledge, skills, and qualities that characterize a specific profession. Early childhood education (ECE) has not always been recognized as a distinct profession but rather was seen as a natural extension of domestic work. As ECE becomes increasingly credentialized and ECE workers diversify, concerns about professionalism continue to grow. This entry examines the concept of professionalism and its specific implications in the ECE field.

Understanding Professionalism: An Overview

There are specific, identifiable characteristics that distinguish professional fields of work. The characteristics that are specific to a profession are used as

criteria for determining whether or not individuals who work within that profession exhibit professionalism. To understand the term *professionalism* requires first a discussion of the qualities that differentiate a profession from other types of jobs.

A *profession* is defined as an occupation that requires prolonged education and training. Some professions require other specialized qualifications such as licensure, ongoing professional development, or additional requirements. Choosing and pursuing a profession is sometimes referred to as a calling because often people who go into the work describe having been compelled to do so. Professions usually involve types of work that provide services that address and promote the well-being of others. Because of this focus on service to others, professions are often considered to be more altruistic than other types of work or occupations. The nature of professional work often creates certain societal attitudes toward the profession as well as the people who do the work. Society may view the work accomplished by people working in professions as having a significant value. Professionals are often respected and held in high esteem by members of the community because the work they do makes an important, positive impact on individuals or groups of people. A profession is often viewed not only as a vocation that is rewarding and meaningful to the people who receive the services but also as rewarding and meaningful to the people who perform the work as well.

Professions have additional attributes that set them apart from other types of occupations. One of these is a specialized body of knowledge that is specific to the profession. A specialized body of knowledge is the foundation of a profession because it informs the knowledge, practices, skills, and approaches used to prepare individuals to work within the profession. It can also be used as the criteria for distinguishing the quality of the work provided. A specialized body of knowledge is typically based in scientific research that has been performed over long periods of time. These ongoing research studies and findings result in an accumulation of knowledge, proven practices, and approaches that are used by the professionals within the field to

do their work and to try to achieve the desired results and goals of the profession.

To work in a profession requires the successful completion of extensive education and training that is based in the profession's specialized body of knowledge. Some professions have differentiated employment and staffing patterns that reflect a hierarchy of knowledge acquisition by levels of educational achievement. These educational levels typically range from a beginning level to a more advanced level with each requiring more knowledge, skill, and educational preparation. Individuals who want to work within a profession that has differentiated staffing patterns often may enter the profession at a beginning level and then make advances to higher levels of employment based on their advancement in their educational preparation. Credentialing and licensure requirements, which are based on levels of educational attainment and/or formal assessments of a person's knowledge and skills, often determine who may work in a specific profession, at what level, in what capacity, and with what degree of responsibility and decision making.

Professional organizations, professional bodies, or professional societies are organizations that focus on a particular profession, the individuals who work within that profession, and the public interest. Professional organizations are usually nonprofit and do not seek financial gain from the services provided to members. There is typically a membership fee to become a member of the organization. Some professional organizations have requirements for membership that may include a certain level of educational preparation and/or work experience within the profession. There are multiple advantages for a person to become a member of a professional organization. Membership fees often cover not only membership in the national organization but also state and local group affiliate memberships. Services provided by professional organizations may include receiving relevant publications published by the organization; journals that contain the latest research and current findings from experts in the field; listings and offerings of professional development

opportunities at the national, state, and local levels; discounted registration fees to conferences sponsored by the organization; networking opportunities with other professionals; career and employment services; and opportunities to become involved in committee work and leadership roles within the profession.

Professions have written professional standards that are developed by one or more of their national or state professional organizations or licensing boards. These professional standards are specific to the profession and include the knowledge, skills, dispositions, and qualifications that individuals must possess to be employed within the field and to be able to competently conduct the work. Professional standards include the values of the profession, the educational preparation and training needed to work within the profession, principles and guidelines for providing professional services, and the types of services performed by the individuals employed in the profession. Professional standards often determine entry into the field including who may become employed and at what level. Professional preparation standards typically provide guidelines for the amount and types of continuous education and professional development needed after initial employment in the field, what types and quantity of ongoing professional development are required to continue to deliver services, and the level of responsibility a person should be given within the framework of the work or services provided by the profession.

Professions develop and use a code of conduct or ethics that identifies and states the ethics, values, and principles that guide responsible behavior and practices within the profession. Codes of ethics provide guidelines for the education, professional preparation, and behavior of those who work in the profession. A code of ethics includes profession-specific evidence-based practices for ethical behavior and recommendations for how to address and resolve ethical dilemmas encountered by individuals as they carry out the work of the profession.

Professionals usually have some degree of autonomy, self-governance, self-regulation, individual decision making, and control over the practices and

services they provide. People who work in professions take responsibility for providing high-quality services that are based in the specialized knowledge, skills, and dispositions of their profession. Professionals have the autonomy to make decisions about important aspects of their daily work and to make reasoned judgments and considerations that impact the lives of other people.

Being a member of a profession and exhibiting professionalism means making a commitment to learn a specialized body of knowledge that may require extensive educational preparation. It means keeping current and acquiring ongoing knowledge and skills as continuing scientific research provides new information that is relevant to the profession. Professionalism means doing one's very best to provide high-quality services and work because the decisions one makes and the work one does impact the lives of individuals, groups of individuals, the community, and society. A person who exhibits professionalism has attained extensive educational preparation, possesses and uses a specialized body of knowledge, and follows the guidelines and practices set forth by the profession's code of conduct or ethics.

Professionalism in Early Childhood Education

Lilian Katz was among the first to propose that early care and education possesses the characteristics of a profession. Since that time the professionalization of the field of early childhood has continued to advance. In addition, there has been an expanding public awareness of the need for high-quality early childhood education programs and highly qualified, well-prepared early care and education professionals. Scientific research now provides evidence of the importance of the early childhood period in life and the impact that high-quality early childhood programming can make in promoting and enhancing young children's development, school readiness, and lifelong educational achievement. There have been changes in public perceptions and public policies regarding early care and education, as well as changes

within the profession itself. At no other time has professionalism in early care and education taken on more meaning than it currently does. Informed by new scientific knowledge of the importance of the first few years of life, early childhood education professionalism requires extensive knowledge of child development as well as exceptional early childhood teaching and program-related skills.

Membership in the National Association for the Education of Young Children (NAEYC) is one mark of professionalism in the field of early childhood care and education. Membership in NAEYC provides a support base and resources for maintaining professional practices and individual professionalism. Early childhood professionalism depends on a teacher's knowledge and understanding of the standards of the early childhood profession, which are outlined in the *2010 National Association for the Education of Young Children Standards for Initial and Advanced Early Childhood Professional Preparation Programs*. These standards identify the knowledge, skills, and dispositions crucial for early childhood teachers to know, understand, and follow in order to effectively teach children. The NAEYC Standards are designed for the early childhood education profession as a whole and are relevant across levels of educational preparation and formal degree levels from the associate to the baccalaureate to the graduate degree. The NAEYC standards are used in higher education professional teacher preparation programs, accreditation systems, state policy development, and program improvement planning. The standards reflect the differentiated staffing patterns common in early childhood education programs with differences in the depth and breadth of standards-based knowledge and skills expected at each level of early childhood professional preparation.

Professionalism means using and following the *NAEYC Code of Ethical Conduct*, which offers guidelines for responsible teacher behavior and provides a common basis for resolving the ethical dilemmas encountered in early childhood care and education. Early childhood teachers can refer to the core values and principles found in the code to guide their ethical responsibilities to children,

families, the community, and society, as well as to their colleagues and employers.

Professionalism in early childhood education means that teachers take responsibility for providing high-quality services that are based in the specialized knowledge, skills, and dispositions identified in the standards for the profession, the code of ethics, and the other documents that compose the accumulation of scientific research and knowledge that makes up the profession of early childhood education. Achieving and maintaining professionalism also means that early childhood teachers engage in lifelong learning. They seek out opportunities for ongoing learning opportunities that focus on the acquisition of current research-based scientific knowledge and how this knowledge translates into high-quality, developmentally appropriate, applied teaching practices and learning experiences for young children.

Early childhood professionals make significant contributions to the betterment of their communities through the impact they make through their teaching of young children. The value of the work early childhood professionals perform is immeasurable in that it will extend beyond the lives of the teachers and the young children and families they serve. Enhancing and promoting the optimal development and learning of young children touches untold future generations. Professionalism in early childhood education means being the best, most highly qualified, competent professional teacher that one can possibly be because what happens in early childhood classrooms can change the trajectory of children's lives.

Carla B. Goble

See also Developmentally Appropriate Practice; Ethics in Early Childhood Education; National Association for the Education of Young Children; Standards

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PROGRAM EVALUATION

Program evaluation is defined as the systematic study of services, interventions, programs, and policies designed to improve the lives of individuals, children, families, and communities. A type of applied research, program evaluation efforts utilize qualitative and quantitative research methods and a variety of research designs including descriptive strategies, case studies, and quasi-experimental and randomized experimental designs. The goal is to collect, analyze, interpret, and report information about service delivery efforts or policies. This entry discusses the history of early childhood program evaluation efforts, approaches utilized in evaluating programs, and the reasons for conducting program evaluations.

The purposes of program evaluations may differ. Some evaluations focus on an examination of program processes or formative evaluation questions. Evaluations of this type may examine a variety of questions including the need for programs or services. Program characteristics, accountability, or resource utilization may be examined. Internal processes within the program, program management

and administration, and the quality of the implementation may also be central facets of the program studied. Other evaluations focus on an examination of the products or outcomes of programs or policies or on summative evaluation questions including cost effectiveness, progress in achieving goals and outcomes, and short- and long-term benefits.

History of Early Childhood Program Evaluation Efforts

Program evaluation as a field has grown since the Great Depression and the Great Society programs of the 1960s. During these times of great social and economic change, the federal government began to play a greater role in developing social and educational programs in an effort to combat a variety of societal ills including poverty, racism, violence, urban decay, and lack of educational opportunity. In the United States, there have been many prekindergarten program evaluation studies. Some of the best known program evaluations conducted of early childhood intervention efforts in the United States include the HighScope Perry Preschool Study in Ypsilanti, Michigan; the Abecedarian Project in North Carolina; and national studies of Head Start and Early Head Start.

Reasons for Conducting Program Evaluations

Program evaluations may be conducted to meet the requirements of funders, such as foundations and the federal government. A goal is to ensure money awarded to implement programs and policies is used effectively, judiciously, and in accordance with program or policy mandates. For example, as a result of the 1993 federal Government Performance Act, programs that are publicly funded are required to provide evidence of program effectiveness. Programs and policies are often enacted in a political context and as such, program evaluation data can sometimes be used to make decisions about the merit or worth of programs or policy changes. Data can sometimes

be utilized by funders to determine whether programs and policies should be continued, expanded, scaled back, or discontinued. This can create a difficult situation for evaluators and program personnel given that program data can sometimes be used to make high-stakes decisions about programs and policies.

There is also some controversy in the field about the type of research design and methods that should be used in establishing program impacts. Some view random assignment, experimental design studies as the preferred way of measuring and assessing the effects of programs or policies. In studies utilizing this design, potential program users or clients are assigned randomly to treatment and control groups, with program outcomes measured at program entry and exit. If the group receiving the intervention performs more strongly on the outcome measured than the control group, the assumption is made that the program or policy has been effective in producing positive changes in clients or program participants. However, causal linkages can be difficult to establish. It is also important to consider the quality of interventions, program utilization or dosage, and the characteristics of program participants in order to fully understand program outcomes or impacts.

There has been an increased emphasis on considering how program evaluation data can be utilized not only to meet funding requirements and demonstrate impacts, but as an opportunity for programs to gain important information that will enable them to become more effective. The term *utilization-focused evaluation* was developed by Michael Quinn Patton. It denotes evaluations that help to develop and study questions developed by program personnel and consumers. Utilization-focused evaluations can be used to better understand questions program personnel and clients have about the implementation of programs and program processes. Evaluations can be used to examine the strengths and weaknesses of efforts, and what modifications may be made to programs and policies to increase the potential for positive outcomes, informing other similar efforts that may be undertaken.

Further, the Joint Committee for Standards in Educational Evaluation has established standards for program evaluation. The standards highlight the need for program evaluation efforts to focus on utility or the practical needs of program users, use research methods that are realistic and prudent given the program's context (balancing technical rigor and adequacy), and legal and ethical propriety in programmatic research.

Patricia Hrusa Williams

See also Abecedarian Project; Accountability in Early Care and Education; Center for Applied Research; Early Head Start; Head Start; HighScope Perry Preschool Study; Measuring Effectiveness; Prekindergarten Program Evaluation; Quality

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- National Center for Educational Evaluation and Regional Assistance: <http://ies.ed.gov/ncee/>
- University of Wisconsin–Extension, Program Development and Evaluation: <http://www.uwex.edu/ces/pdande/evaluation/>
- Web Center for Social Research Methods: <http://socialresearchmethods.net/>

PROGRAM FORMATS AND SCHEDULES

Early childhood education has been recognized as a crucial component to later success in schooling and life. While this has been established through research and recognized in public policies, it is not yet fully realized in the structure of the education system. From birth through age 8, educational programs and formats vary greatly for young children and are not aligned with the education system. This is evident in the diverse early childhood programs and schedules that are part of the child care and pre-K structure. This entry provides a brief introduction to child care options, which include private child care, church-based preschool, preschool, family-based/home-based child care, Head Start/Early Head Start, public pre-K, and kindergarten programs, including half-day kindergarten (HDK) and full-day kindergarten (FDK).

Child Care

Child care is viewed as the supervision, nurturing, and educating of young children beginning at infancy and continuing on through age 4. It may be delivered by a home-based provider, simulating more homelike settings for children, or in a more formal, organized child care center. The formats of child care programs vary widely from provider to provider and from system to system.

Private Child Care

Families are free to choose between various private child care options available to them. In private centers, programs are as unique as the businesses that operate them. Child care centers usually accept children at 6 weeks of age (infants) through school age (before and/or after school programs). The formats may revolve around age-related rooms (infant rooms) or age-integrated areas (infant/toddler rooms). Each center determines how it will group children based upon population, space, need, staffing, state regulations, and curriculum.

Church-Based Preschool

Families may choose a faith-based program format where children are exposed to and education/nurturing revolves around a spiritual design related to the religious format of the church-based center. The schedules in such private settings usually include some religious teaching time in addition to developmental aspects, including physical, social, emotional, and cognitive domains. The formats of these programs vary extensively and families are usually offered multiple choices for the days and times their children will be in school. Church-based programs are private and the tuition is the responsibility of the family.

Private Preschool

In most communities, families can select among many private preschool programs. The formats of these programs are just as varied in their offerings of days and times of attendance as the aforementioned church-based programs. These schools are usually set up as a business or in connection to a business, so they try to meet the needs of the diverse families they serve.

Family-Based/Home-Based Child Care

Families may choose to place their child with a home-based or family-based provider. This is a child care location centered in a private home. Although these are privately owned centers, state regulations apply to protect all children and families involved. The schedule and program for the day is decided by the home-based provider and vary from home center to home center. Hours of the programs are often lengthy in order to provide care for working parents.

Head Start/Early Head Start

Provided to qualifying families, Early Head Start (EHS) serves the families of infants and toddlers under the age of 3 as well as pregnant women. Head Start (HS) continues that work with children ages 3 and 4. The program format and schedules

of each are established by EHS and HS and are similar in each location.

Public Pre-K

In some states, public preschool is available to children who qualify under guidelines of economic or educational need, but as of 2015, this was not a universal offering to children and families across the United States. As with most early childhood programming, public pre-K varies widely among states with some offering part-day programs and others offering full-day programs.

Kindergarten

Once children reach the age to enter kindergarten, variations in schooling continue. In the United States, kindergarten is viewed as a fully integrated part of the K–12 system, but in reality, it has yet to be fully integrated. On the one hand, kindergartens are supported by the infrastructure of the public education system (e.g., in terms of teacher licensing, including teacher certification, and payment compensation levels). On the other hand, kindergartens share many policies and practices with child care centers and continue to be guided by early childhood education philosophies. Notably, kindergarten policies vary widely from state to state with each state determining whether kindergarten is mandatory, the starting age of children, methods of funding, and the length of the school day. As of 2015, only 15 states require kindergarten. Although the opportunities and advantages of early childhood education have been noted, the alignment of kindergarten with the public school structure is only beginning to be realized.

Half-Day Kindergarten (HDK)

In the United States, many schools offer a half-day kindergarten program that permits children to attend school for part of the school day. Children may arrive for the morning program, usually attending for approximately 3 hours and leaving before lunch, or they attend the afternoon

session, arriving after lunch and leaving at the conclusion of the school day. Since the No Child Left Behind Act of 2001, many kindergarten programs have shifted to a more academic focus, primarily teaching reading and math skills. In half-day programs especially, time becomes an issue since academic mandates often replace more traditional and evidence-based practices such as dramatic play, blocks, and other sensory and motor activities.

Full-Day Kindergarten (FDK)

The schedule and program format of full-day kindergartens (FDKs) are largely up to individual school curricula and state mandates. There is no one rule on how kindergarten is delivered or to whom it is offered in the United States. Without a state or federal mandate, the variation of schedules and the format of the programs are limitless. Some FDK programs are based in academic curricula and first-grade readiness programs. The focus is on literacy and math with little attention given to the other academic areas or developmental domains. There are other FDK programs based on sound child development theories and play-based curricula. Best practice informs educators that children benefit from a program that is both academically challenging and based in sound child development theory.

Jennifer L. Pyles

See also Child Care; Early Head Start; Head Start; Home-Based Early Childhood Education; Kindergarten; Prekindergarten; Preschool

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PROJECT APPROACH

The project approach to teaching and learning is characterized by in-depth investigation of real-world topics usually studied by a class of children for several weeks. The approach offers the teacher practical strategies for planning in-depth study by a whole class group. The teacher has an important guidance role in developing a project with various lines of interest or subtopics for detailed study. Opportunities are designed for children to make choices about what to investigate. The teacher also guides the children in applying skills as they collaborate with classmates to represent their findings. The three-phase planning and evaluation strategy of the project approach is outlined in this entry. The strategy is formulated to provide guidance to the teacher for managing in-depth investigation.

Learning through projects has been advocated by many educational experts to stimulate interest in learning and to provide opportunities for children to learn firsthand about the real world in which they live. The project approach was described by Lilian G. Katz and Sylvia C. Chard in 1989 to offer a restatement of these ideas in the North American context to help teachers who were becoming interested in teaching through projects toward the end of the 20th century. Earlier proponents or examples of project work were found in the work of John Dewey, William Kilpatrick, Susan Isaacs, the British infant schools after World War II, the U.S. open education movement, and the schools of Reggio Emilia in northern Italy.

Preliminary Planning

The topic of study for a project is usually chosen by the teacher with the children's experience, interest, and prior knowledge in mind. The topic may arise out of class reading, the prescribed curriculum, or discussion of local events. Topics that have been found to be most productive are those relevant to the children's daily lives and interests. They are also chosen because they are deemed to

be worthy of children's time and energy in terms of the learning opportunities afforded. Topics may range from "how shoes are made" to "who works on a farm" to "where food comes from" to "how the children in the class get to school." These topics are studied in ways that help children better understand the world in which they live.

Preliminary planning by the teacher consists in thinking through the topic, considering possible lines of inquiry, and contacting experts who might offer field experiences or visit the classroom as experts for the children to consult. This initial planning is done by the teacher, who develops a concept map or topic web of related ideas and vocabulary. The teacher thus anticipates the various directions the study may take before discussing the topic with the children for the first time. The document resulting from this anticipatory process provides a practical reference to assist the teacher in recording the development of the project. In the elementary school, the teacher has to evaluate the topic in relation to curriculum requirements for the children in terms of the vocabulary they will be using, the conceptual challenges involved in understanding the main ideas, the opportunities to apply higher order thinking skills in both research and representational work, and the relation of the study to various subjects of the curriculum.

Three-Phase Planning and Evaluation Strategy

The teacher plans for each project to progress through a sequence of three phases. This three-phase structure offers a temporal framework for the study. It also provides the teacher with a narrative outline to account for the development of children's understanding of the topic both individually and as a group.

Phase 1

In the first phase of the project, the teacher shares a personal experience or shows the children an object associated with the topic to provoke discussion. The purpose of this introduction to the

topic is to awaken the curiosity of the children and develop their interest in it. The teacher stimulates discussion of relevant personal experiences they have had. Discussion times are scheduled over several days and the teacher notes different levels of prior knowledge the children have and areas of the topic in which they express particular interest. The teacher encourages children to wonder about the topic and helps them generate researchable questions to investigate over the following weeks. At this time, the representational work involves the children sharing their experiences in order to clarify their understanding. During this process the teacher notes gaps in the children's knowledge or misconceptions that can be addressed by research as the project progresses.

With the younger children, preschool to kindergarten, the parents can be involved in helping to stimulate interest in the topic by discussing it at home and encouraging the children to share their experiences with classmates at school. Parents can also be helpful in offering expertise in the second phase of the project, volunteering to accompany the class on a field visit or providing access to a field site. The first phase gives way to the second once a common baseline understanding of the topic has been achieved and a list of questions has been generated to guide investigative work.

Phase 2

The second phase begins with field work or the visit of an expert to the classroom to answer some of the children's questions. The children are usually eager for new experiences and new information to be provided at this time. Following early firsthand experience of the topic the children engage in representing the information they are most interested in. They may form groups and work together to clarify new understandings. New questions are added to the list to be researched, and books and online resources may be consulted according to the age of the children. The teacher may set up opportunities in the classroom for them to further investigate ideas they are curious about after the initial field experience.

Discussion continues to be an important feature of project work in the second phase. The teacher can set expectations for the work and help the children share their ideas and report the findings of their investigations. The opportunity for children individually or in groups to make choices about the directions their work may take means that they have to be responsible for informing their classmates of the progress they are making. While there are opportunities for children to work independently, all the work in the classroom is guided by the teacher so that children do not waste time or materials in unproductive activity when they need suggestions or support. When children find out for themselves through exploration, they usually take longer to represent information that is new to them than if they are told the answers to their questions by the teacher. However, when they can find out information over a period of time in a project they can become familiar with new ideas and see how they relate to knowledge of the topic as a whole. In this way, they can connect new information with that which was known earlier and develop deeper and more personally meaningful understandings.

Some of the work is done by teams of children and other work is done by individuals. This allows the teacher to guide children according to their individual interests and learning needs. One child may be working at a relatively simple level together with another child whose knowledge is more advanced. But both gain from collaboration as they each help each other in their own way. For instance, one child might hold two objects in position while another child measures the distance between them. In this way, any child's personal strengths may enrich the learning opportunities for any other child in relation to the project topic.

As the project progresses, all children are informed of the progress being made by other groups or individuals in the class. This is done through discussion where children report briefly on their work in progress and on work they have completed. There are opportunities for children to comment on one another's work and to perform the role of "critical friend" as they seek to improve

the quality of their representations. They also learn about the work going on throughout the classroom by means of displays of completed work that are posted to provide reference information for the whole class. Where project work is flourishing, the classroom is a place where visitors can see evidence around the room of what the children are interested in, what they are learning, and how it relates to standards of learning or experience, or curriculum goals where these are appropriate.

Phase 3

Once the children have completed most of the investigation, the teacher can review the progress of the project with the children and involve them in sharing their work with an outside audience. Others interested in seeing the work may be other groups of children in the school or center, parents, or those experts who have helped the class to carry out their investigations. Some of the ways children have shared their work have been setting up a museum (e.g., a rock museum), engaging in extended role play with a participating audience (e.g., setting up a restaurant or checking into a hospital), or offering a guided tour of their work (e.g., taking visitors on a tour of the garden they have worked to design and plant).

The activity involved in arranging to share their work in these ways involves the children in reviewing the highlights of their project, considering all they have learned, and celebrating their achievements. They become spokespersons for their own work and the work of their classmates. Teachers and parents initially unfamiliar with the project approach have commented on the confidence and awareness of detail the children show as they tell about research and show the representations of their findings. The projects are memorable for the children because they participate actively and uniquely in a meaningful collaborative venture.

Conclusion

Developments in brain research and the psychology of learning have led to increasing interest by educators in the project approach at the time of writing

this entry. It has also been noted that children tend to put more effort into schoolwork and tend to remember more of what they do when they have some choice in how the work is developed rather than learning in the same way as all others in the class through direct instruction. While some of the time in school has to be devoted to direct instruction of the whole class in order for older children to acquire academic skills, project work allows for the application of those skills by children in more informal learning contexts that have meaning for them. In classes of younger children where spontaneous play and sensory exploration support children's learning, the project work provides the more formal aspect of the program. Projects for children of any age allow them to develop their understanding of the value of academic skills in everyday life. Project work rarely comprises the whole of an educational program but has been found to provide complementary educational opportunities when used alongside other teaching approaches.

Sylvia C. Chard

See also Curriculum and Early Childhood Education; Inquiry; Inquiry-Based Learning; Models

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PROJECT SPECTRUM

Project Spectrum was a 10-year research initiative dedicated to the development of an innovative approach to assessment and curriculum for the preschool and early primary grades. Guided by David Feldman's conceptual framework of *non-universal development* and Howard Gardner's theory of *multiple intelligences*, Spectrum's work is based on the belief that each child exhibits a distinctive profile of cognitive abilities or a spectrum of intelligences. These intelligences are not fixed; rather, they can be enhanced by educational opportunities. The Spectrum approach to early education emphasizes the identification of young children's areas of cognitive strengths and promotes use of this information to design educational support appropriate to individual children.

The Spectrum Assessment for Preschool Children

The Spectrum assessment consists of 15 activities in seven domains of knowledge: Language, math, music, art, social understanding, sciences, and movement. Designed for use in preschool settings, the assessment aims at identifying diverse intellectual abilities that young children express when engaging in meaningful activities that use "intelligence-fair" materials, that is, materials appropriate for assessment in specific domains.

Of the 15 activities, some are structured tasks that can be administered by a teacher with one child at a time, including, for example, the dinosaur game, which assesses early math abilities, and the classroom model, which assesses social

understanding. Other activities can be used in a group setting, such as creative movement and drawing. Each activity measures specific abilities, often requires particular materials, and is accompanied by written instructions for task administration. The instructions include a score sheet that describes different levels of the key abilities used in the activity. The child's performance on many activities is quantifiable. During the assessment, the child's working style is also recorded. Working style refers to the way in which a child interacts with the materials of a content area, such as degree of engagement, confidence, or attention to details.

The results of Spectrum assessment are described in the form of a narrative report, called a *profile*. The profile is based on the full range of cognitive abilities examined through the Spectrum activities. Using nontechnical language, it describes each child's relative strengths and weaknesses in terms of the child's performance and working styles in different content areas. The focus is each individual child's capacities; only occasionally is a child described in relation to peers. For example, a child's unusual sensitivity to different kinds of music might be described by reference to his or her movement and attentiveness during and after listening to various music pieces. In addition to detailing a child's capacities, the profile also identifies the child's preferences and inclinations. Stressing the importance of ongoing assessment, the profile is not a static image but a dynamic composition of a child's interests, capability, and experience at a particular point in time. The conclusion of the profile typically includes specific recommendations to parents and teachers in terms of possible ways to support identified strengths and improve weak areas.

Spectrum Early Learning Activities

The Spectrum Early Learning Activities are curricular activities in eight content areas: language, math, music, art, social understanding, natural science, mechanical construction, and movement. Each area includes 15 to 20 classroom activities and several take-home activities appropriate for

children in kindergarten and first grade. The learning activities do not constitute a whole curriculum. Instead, they are designed to supplement regular curricula, to expand learning in nontraditional areas such as mechanical construction and social understanding, and to provide a structure for classroom observations in diverse content areas. The learning activities also can serve as catalysts, providing ideas to help teachers develop their own projects or find ways to teach children who are not responding to more traditional approaches.

The learning activities in each area are organized around key abilities that are essential to success in the domain. In the area of mechanical construction, for example, key abilities include understanding of causal and functional relationships, visual-spatial abilities, problem solving with mechanical objects, and fine motor skills. Teachers focus their observations on key abilities while engaging children in activities. Teachers focus on children's development of key abilities through an ongoing assessment process.

Regardless of the content area, all Spectrum learning activities (a) highlight and exercise key abilities in a designated domain, (b) involve hands-on problem solving in a meaningful context, and (c) provide information that helps teachers adapt their curriculum to better meet the needs of individual children. In terms of the activity format, some occur in free play whereas others are structured. To assist teachers with implementation, objectives, materials, and step-by-step procedures are described for each activity.

In summation, because of its strong theoretical framework and unique approach to assessment and curriculum development, Project Spectrum has attracted much attention in the field of early childhood education. The three published volumes documenting Spectrum's work have been translated into Spanish, Chinese, Italian, and Portuguese, and there are several dozen assessment instruments in the field inspired by the Spectrum work. Many early childhood teachers and schools endorse the Spectrum approach to early education and use it to guide the teaching and learning process in daily classroom practices.

The Spectrum work emphasizes diversity, individuality, and flexibility. It is best thought of not as a discrete program or a specific set of activities, but as a theory-based approach that emphasizes the importance of recognizing and nurturing a wide range of children's cognitive abilities. This approach can be used to help bring about important changes in educational assessment, curriculum development, and instruction.

Jie-Qi Chen

See also Curriculum and Early Childhood Education; Early Childhood Education; Multiple Intelligences; Theory to Practice in Early Childhood Education and Care

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PROSOCIAL BEHAVIOR

Young children demonstrate prosocial behavior when they voluntarily act to help, share with, or comfort another person. Examples include a 1-year-old child who picks up a book for a grandmother who dropped it, an 18-month-old who hugs her brother when he bumps his head, or a 3-year-old twin who gives his sister some of his

apple slices. These examples illustrate the three definitional characteristics of prosocial behavior: it is voluntary, intentional, and beneficial to another person. This prosocial behavior is striking evidence that even very young children recognize that the other person needs their help, understand what kind of help is needed, and take effortful action so that the other person benefits. In many but not all cases, young children's prosocial behavior is also unsolicited and unrewarded, a phenomenon that Warneken identifies as truly remarkable because without praise or reward and without checking to see if adults approve, the children perform behaviors to benefit others. The occurrence of prosocial behavior in very young children intrigues developmental researchers because it illustrates children's social cognitive ability to infer the needs of another person and to plan an action to resolve that need, and their early capacity for empathy and concern for the welfare of others.

The antecedents to prosocial behavior are evident in very young infants who show interest in another's distress. By 12 to 18 months, children have returned dropped objects to another person, helped put things away, and warned another person about danger. Sharing occurs as early as 12 months of age and increases in frequency by age 2, especially if toys are plentiful. Two-year-olds have been observed trying to comfort someone who is upset. Throughout the preschool years (3 to 5 years), children develop a growing repertoire of prosocial behaviors and use them with increasing frequency. They also become more skilled in matching their actions to the needs of the other person, as opposed to early prosocial actions that mimic how the child would herself prefer to be helped or comforted. As a classic example, 20-month-old Christine would comfort her older brother by sharing her comfort bunny, but by the time she was 3 years old, Christine understood that her brother needed a hug instead. An understanding of the ages at which early prosocial behaviors occur continues to shift with new research and refined empirical strategies, suggesting that these estimates are inevitably more accurate indices of what young children can do prosocially than of what they cannot.

Early research tended to treat each various example of prosocial behavior as representing the full class of prosociality and drew conclusions about all prosocial behaviors after actually assessing only one or two forms of behavior. However, more recent research has established that children do not behave consistently for different varieties of prosocial tasks. Instead, different prosocial behaviors are found to be distinct from one another and to have different correlates. Some prosocial behaviors occur more readily than others, presumably because of the complexity of the social judgments and the amount of donated effort that these require of a child. As one example, sharing is different from some prosocial behaviors because it costs children a portion of what they already possess and is more than simple compliance with another person's request. In comparison, prosocial behaviors that require effort but no loss (comforting or helping) occur more readily than sharing. More recent research examines the trajectory of a single example of prosocial behavior rather than generalizing from one distinct prosocial behavior to another.

Age alone does not explain individual differences in the prevalence of prosocial behavior in one child versus another. The occurrence of spontaneous helping and comforting behaviors in very young children prompted Hoffman to suggest that prosocial behavior is founded on a robust biological predisposition for helping. Indeed, twin studies have provided some evidence of the heritability of "prosocialness." Siegler, DeLoache, and Eisenberg posit that this may be due to genetically based differences in children's emotional regulation or assertiveness. Regardless of the cause, evidence from multiple sources suggests that some children are more prone to be prosocial than are others. Situational differences can also explain some of the variance in prosocial behaviors. For example, the more apparent the other's distress, the more concerned children are likely to become and the more likely they are to help. Parents influence their children's prosocial behaviors by modeling and espousing values related to caring and helping and by providing children with multiple opportunities to practice prosocial actions. Also, multiple researchers

have demonstrated children are more likely to behave in prosocial ways when their parents are warm, highly engaged, and authoritative. Older siblings also model prosocial behavior toward their very young brothers and sisters.

A generally accepted interpretation of early studies was that girls use more prosocial behavior than boys, but more recent studies suggest that gender differences are confounded with the method used to assess prosocial behavior. Bouchard and colleagues found gender differences only when comparing early childhood educator ratings of children's prosocial behaviors; no gender differences were found for direct observations of children's behaviors in a child care setting or for children's responses to hypothetical interpersonal problems. A current supposition is that boys and girls may engage in different prosocial behaviors, but neither gender is more prosocial than the other.

Prosociality is widely recognized as an early step on a trajectory toward social competence and engagement in later childhood and adulthood. Children who are more prosocial during the toddler and preschool years are subsequently more ready for school and more successful in the later grades. Prosociality among very young children is a significant predictor of supportive friendships in preschoolers, and positive friendships in older children. Moreover, preschoolers in friendships with highly prosocial best friends were more prosocial themselves when assessed two years later. Thus, very young children's participation in prosocial behavior is not only a remarkable accomplishment but also developmentally important for their subsequent life success.

Beth Doll

See also Emotional Development; Empathy; Social-Emotional Competence; Social Skills and School Success; Social-Emotional Development

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PSYCHOSEXUAL THEORY

Theories of sexual behaviors exist in cultural lore. The ancient Hindu Kama Sutra describes a prominent societal role for sexuality and provides detailed prescriptions for seduction and erotic practices (Vatsayana, 1963).

Psychoanalytic Theory

Sigmund Freud (1939) pioneered a theoretical psychoanalytic framework to conceptualize psychosexual development. Infants go through

developmental stages, each of which is defined by an erogenous zone of the body—the oral, the anal, and then the genital—that is especially vulnerable and sensitive to stimulation. Young children derive sexual pleasure instinctually from each zone. Thus, the word *sexual* has a broader meaning in Freudian theory, since sucking, swallowing, and biting would be pleasures of the earlier and later oral stages.

According to Freud, successful navigation through these stages requires conflict resolution to enable a child to move on without undue frustration in any phase. An older baby needs to learn to suck without biting the breast and causing the mother to withdraw in pain and anger. The oral stage usually ends at time of weaning. If a child becomes fixated at one stage, then a portion of the child's psychic energy ("libido") is so invested that the child cannot move competently on to the next stage. For example, if toilet learning is punitive and coercive, the child may retain feces stubbornly and later develop what Freud termed an "anal retentive" (stubborn/stingy/hoarding) personality. Or a child may develop an "anal aggressive" personality, exemplified by temper tantrums, destructiveness, or cruelty.

Sensual self-pleasuring begins early. Babies suck their thumbs. During diapering, boy babies pat or pull at the penis; toddler girls find their vulvas with fingers. But, at about 4 to 5 years, genitalia become the *special* focus of pleasure. Children express curiosity about birth and genitals. During the "phallic stage," Freud (1939) postulated the predominance of the "Oedipus complex"—an unconscious wish by a boy to take the father's place as the mother's main love object. Freud pronounced this conflict to be at the "core of man's conflicted existence" (Erikson, 1968, p. 121). This conflict deepens as a boy develops an unconscious "castration anxiety," a fear that in retaliation for his wishes he may lose his penis.

Freud theorized that when boys begin to realize that they are never going to be in sexual relations with mother, they struggle to repress these Oedipal wishes, develop a superego, and then identify with father. Girls shift their initial love focus from mother to father (the "Electra complex") during the phallic

phase. For example, a preschool girl may declare cheerfully that she is "going to marry daddy."

Freud predicted lifelong effects if the Oedipal complex is not resolved well. Psychosexual disorders affect 1 in 4 adults (Maxman & Ward, 1995). It may seem that modern psychiatry confirms Freud's postulation of severe effects from a poor resolution of this struggle, given the extensive variety of sexual dysfunctions described in the American Psychiatric Association's *Fifth Edition of the Diagnostic and Statistical Manual of Mental Disorders* (DSM-5) (2013), which include delayed/premature ejaculation, arousal disorders, and sexual orgasmic dysfunctions. Paraphilic disorders include intense sexual arousal from voyeurism, exhibitionism, rubbing against strangers, sexual masochism/sadism, pedophilia, and fetishisms.

Freud believed that sex drives were dormant during the "latency period" from 7 to 11 but emerge again at puberty—Freud's final psychosexual stage, the genital—when adolescents struggle with sexual urges and must find ways to sublimate them and also ultimately find acceptable persons to love.

Eriksonian Theory

Erik Erikson (1968) enlarged Freud's psychosexual theory to include psychosocial development. He outlined a succession of eight stages, each involving a "nuclear conflict." The first two respectively involve development of trust versus mistrust and autonomy versus shame/doubt/rage. These conflicts must be resolved so that by weathering each crisis, the person can emerge with an increased sense of inner unity.

Erikson cautions against instilling too great a sense of guilt for when children handle genitals or manifest sexual curiosity. He writes that otherwise it may lead to a tendency "to follow any leader who can make goals of conquest seem both impersonal and glorious enough to excite an intrinsically phallic enthusiasm in men (and a compliance in women) and thus relieve their irrational guilt" (Erikson, 1968, pp. 121–122).

Erikson (1968) was concerned about cultural attempts to impose the "prototype of the lady" on

small girls. This involves a double standard: Girls are to repress any sexual desires, yet males will try to blacken a female's name through sexual gossip about her. At the same time there was a tacit and "equally ambivalent implication that any man who does not proceed to shed his gentleman's inhibitions when the opportunity of sexual conquest offers itself is a weakling who only deserves to be mercilessly provoked" (p. 65). Such early contradictory messages can lead to young girls' confusion and struggles to accept as valid their own sexual feelings.

Other Theorists

Having studied with Freud, Carl Jung (1928) later minimized the importance of sex in his personality theory and considered "libido" as life energy rather than sexual energy.

Karen Horney (1939) rejected Freud's theory of penis envy and instead retorted that men were envious of women's ability to become pregnant and mother children. She hypothesized that "womb envy" makes males drive for overachievement in work. She theorized that girls and women fear pain from penile penetration and possible vaginal injury. Horney rejected the view that the Oedipal complex has sexual origins, arguing instead that it arises as the result of a child's repressing any hostility toward his or her parents because a child deeply needs parental safe protection. In contrast, Melanie Klein (1975) theorized that repressed sexual curiosity is a chief "cause of emotional neuroses" (p. 30). When adults repress children's strong sexual curiosity, powerful tendencies toward repression are generated that also have "injurious effects" on a child's intellect (p. 29). Klein confirmed the strength of Freud's Oedipus complex in one little male patient with "an extraordinary aggressiveness toward his father and his clearly indicated passion for his mother" (p. 32).

Children, Gender Roles, and Parent Sex Role Socialization

Sex is biological; gender roles are constructed. Families emphasize sex role socialization early in

infancy (Honig, 1988, 2000). Sex differences in play styles appear from 10 to 14 months and are quite evident, across cultures, by the time children are 36 months of age (Wohlwind, 2012).

Judy Chu (2014), using relational theory—the idea that the self and the world are inextricably embedded within and influenced by "interpersonal relationships and social and cultural contexts" (p. 3)—spent two years observing and carrying out in-depth interviews with parents and preschool boys. She reported that young boys begin to define themselves as the opposite of girls due to fear of rejection by male peers and desire for acceptance by male peers. These motivations lead young boys to transition from being expressive and emotionally insightful to being aggressive and emotionally distant. Chu theorizes that boys reject what society views as naturally feminine qualities for what they consider more appropriate masculine ones.

Contrary to theoretical fears that psychosexual deviance arises when children are brought up by gay parents, researchers find that daughters of gay fathers are not less feminine in play than daughters of heterosexual parents. Gay fathers create a social environment in which more cross-gendered play and behaviors are encouraged rather than punished. Boys raised by lesbian mothers showed less gender stereotyping in play than boys in either gay or heterosexual families (Honig, 2015).

Conclusion

Contemporary views on psychosexual development lead to advice for parents and caregivers that providing gentle weaning, flexible toilet learning experiences, and calm willingness to accept children's occasionally intense sexual curiosity about bodily functions and how babies are made can reduce later chances for sexual neuroses (Honig, 2000).

Alice Sterling Honig

See also Aggression; Child Development and Early Childhood Education; Emotional Development;

Gender Diversity; Gender Roles; Parents Who Are Lesbian, Gay, Bisexual, Transgender, or Queer; Sexuality Development

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PSYCHOSOCIAL THEORY

Psychosocial theory focuses on the development of self-understanding, social relationships, and one's relationship to society across the life span. The theory describes normal development as a product of the interaction of the biological, psychological, and societal systems. As such, it integrates multiple domains including cognition, emotion, sensory and motor abilities, and self-awareness—all aspects of children's development and learning. At each stage of life, development results from the ongoing interaction of the person and the culture, with particular attention to interactions within a circle of meaningful social relationships. The topics discussed in this entry include the definition and meaning of the term *psychosocial development*, the contributions of Erik Erikson to the development of psychosocial theory, key concepts in psychosocial theory, and contributions of psychosocial theory to early childhood education.

Definitions of Psychosocial Development

The term *psychosocial development* has at least three important meanings:

1. Humans are social animals. They have a variety of sensory, symbolic, and expressive capacities that support social interactions. In this sense, psychosocial development refers to the idea that human development takes place as a product of ongoing interactions of individuals with their social relationships.
2. The mind (psycho) and the society (social) are interdependent. In order for societies to survive and thrive from one generation to the next, they need to promote healthy, adaptive capacities in individuals. Knowledge and practices about how to socialize, nurture, and care for the young are passed from one generation to the next. In order for individuals to survive and thrive, they need to develop a sense of what is expected of them at each period of life and find ways to meet those expectations. In

this sense, psychosocial development refers to the idea that an understanding of development requires an analysis of the ways that individuals perceive and cope with cultural and societal resources and demands over the life span.

3. Finally, psychosocial development refers to the idea of an emerging view of self in society. This idea is captured most vividly in the concept of identity, a cornerstone of psychosocial theory. The theory suggests a transformative process through which the person gradually integrates an understanding of his or her own competences and values, and positions them in societal contexts. Self-awareness and self-insight are located in socially and culturally meaningful frameworks including gender, occupation, religion, family, political affiliation, ethnicity, and sexual orientation. Over time, the nature of this personal identity is forged, revised, and evaluated, leading to a sense of purpose and place in life.

Erik Erikson's Contributions to Psychosocial Theory

The basic framework for psychosocial theory is attributed to Erik H. Erikson (1902–1994). Erikson grew up in Germany. After high school, he traveled through Europe, studied art for a while, and eventually ended up in Vienna, teaching art at the Hietzing School, a private school for children of many of Sigmund Freud's patients and those who were studying at the Vienna Psychoanalytic Society. He studied the Montessori method in education and received a Montessori diploma. He was so talented in his interactions with children that Anna Freud invited him to join the Psychoanalytic Society, where he trained. He received a diploma from the Vienna Psychoanalytic Institute. Erikson studied the psychoanalytic approach while it was still a new, emerging field, much less structured and formalized than it was to become in later years.

While in Vienna, Erikson met his wife, Joan Mowet Serson, who became his lifelong collaborator. In 1933, under the growing threat of Nazi Germany, they moved to the United States, where

he became one of the first child analysts in Boston. Over the course of his career, he taught at Yale University; University of California, Berkeley; and Harvard University. In addition to his clinical work, he was influenced by American ego psychologists who focused on concepts such as mastery and competence motivation, the writings of Julian Huxley, who introduced him to the idea of psychosocial evolution, and leading anthropologists who involved him in studies with the Sioux Indians of South Dakota and the Yurok Indians of Northern California. In 1950, he published *Childhood and Society*, the work that provides the first detailed elaboration of his psychosocial theory. In that work, one can see the interweaving of his psychoanalytic training, his background in early childhood teaching, his clinical observations, observations of child-rearing practices in other cultures, a growing interest in ego development, his exposure to the historical events of the Second World War, and the influences of his life partner, whose language and artistic talents shaped the language and rhythm of the work.

Over the past 65 years, psychosocial theory has been influential in guiding research and theory in the field of human development. It is one of few theories that address development over the life span, taking into account the interdependence of individual and societal change. The theory has been expanded through the addition of new stages, the identification of central processes through which crises are resolved, development of measures to assess psychosocial maturity, and examination of the characteristics and diverse resolutions of specific psychosocial crises.

Key Concepts

Ego

Ego refers to a complex mental structure, present at birth, that strives to organize and interpret experiences. The ego uses a variety of coping resources including attention, memory, problem-solving skills, and insight in order to satisfy drives and find a balance among competing demands. The ego also strives to establish and

maintain social relationships, drawing on past experiences and an understanding of social expectations that frame interpersonal interactions. The ego is continuously changing and maturing, incorporating new experiences and adapting to both inner and environmental conditions, resulting in new self-understandings and new outlooks on relationships and society at each stage of life.

Epigenetic Principle

The *epigenetic principle* refers to a genetically guided blueprint or plan for development. The term is commonly used to describe patterns of biological or physical development in which the organism passes through a fixed sequence of stages, from seed or fertilized egg, through embryonic phases to the fully formed, mature organism. In psychosocial theory, the term refers to a predictable sequence of stages regarding changes in self-concept and relationships with others, indicating a time during which specific conflicts and capacities are especially salient. The full life span is required for the complete emergence of human capacities. The theory suggests that individuals anticipate future themes and revisit prior themes in order to arrive at an age-appropriate integration that permits forward movement through the stages.

Radius of Significant Relationships

Age-related demands are communicated through interactions with significant others. Over time, the nature and complexity of this network of significant relationships changes, bringing with it diverse messages about cultural expectations and demands. The network of significant relationships influences patterns of care, sharing of information, potential models for identification, and communication about culturally and socially valued attitudes, beliefs, and life goals. Interactions with others in this radius of significant relationships produce cultural variations in how the epigenetic sequence of stages will be experienced but are not thought to alter the underlying themes or the sequence itself.

Psychosocial Crisis

Psychosocial crisis refers to the tension or stress that is experienced at each stage of development as the person strives to meet society's demands and expectations. These demands vary from stage to stage; they may be for greater self-control, new levels of skill development, greater commitment to life goals, or new capacities for interpersonal bonds. At the beginning of each stage, the person experiences a discrepancy between his or her developmental skills and abilities, and the expectations of society to reach a new level of ego maturity. It is this discrepancy and efforts to resolve it that produce a sense of tension that is gradually resolved.

The theory presents the crises as polarities between a positive and a negative resolution, suggesting the underlying dimension along which the crisis is experienced. Both the positive and the negative poles of the crises are normally experienced as the person strives to meet societal demands. The theory hypothesizes that this tension and conflict are necessary features of development, produced by a combination of societal pressures and individual motivation for mastery and social integration. When the crisis of a stage is resolved with a favorable balance between the positive and negative poles, a prime adaptive ego quality is strengthened, providing important resources for coping with life's challenges. When the crisis is resolved with a balance that emphasizes the negative pole of a stage, a core pathology is strengthened, leading people to withdraw from social interactions and become increasingly guarded, and restricting resources that support mastery in subsequent stages. See Table 1 for a summary of psychosocial crises, prime adaptive ego qualities, and core pathologies at each of 10 life stages.

Although Erikson readily acknowledged his intellectual debts to psychoanalytic theory and training, psychosocial theory evolved into a distinct analysis of development. The following four features of the theory are of special note:

1. Ego capacities continue to mature and adapt over the life span.

Table 1 Psychosocial Stages, Crises, Prime Adaptive Ego Qualities, and Core Pathologies

<i>Psychosocial Stage</i>	<i>Psychosocial Crisis</i>	<i>Prime Adaptive Ego Quality</i>	<i>Core Pathology</i>
Infancy	Trust vs. mistrust	Hope	Withdrawal
Toddlerhood	Autonomy vs. shame and doubt	Will	Compulsion
Early School Age	Initiative vs. guilt	Purpose	Inhibition
Middle Childhood	Industry vs. inferiority	Competence	Inertia
Early Adolescence	Group identity vs. alienation	Fidelity to others	Dissociation
Later Adolescence	Individual identity vs. identity confusion	Fidelity to values	Repudiation
Early Adulthood	Intimacy vs. isolation	Love	Exclusivity
Middle Adulthood	Generativity vs. stagnation	Care	Rejectivity
Later Adulthood	Integrity vs. despair	Wisdom	Disdain
Elderhood	Immortality vs. extinction	Confidence	Diffidence

2. The theory focuses on the dynamic interaction of the ego and the social and cultural environments, suggesting diverse pathways from childhood through adolescence and later life.
3. The theory emphasizes strengths and vulnerabilities as complementary aspects of healthy, normal development from infancy through elderhood.
4. The theory suggests a process plasticity, recognizing that as people mature they can reinterpret or compensate for difficulties at earlier periods.

Contributions to Early Childhood Education

Many of the concepts of psychosocial theory are aligned with the principles of developmentally appropriate practice. The theory suggests a pattern and sequence of emerging ego strengths, including the positive and negative poles of each psychosocial crisis, the prime adaptive ego qualities, and the core pathologies, that help to frame expectations about the direction of social and emotional development in early childhood. The first three stages in

particular and their related psychosocial crises, trust versus mistrust, autonomy versus shame and doubt, and initiative versus guilt, suggest key themes for social and emotional conflicts. When combined with an understanding of cultural and community values, these themes have implications for the creation of positive environments for young children.

As a classroom teacher and as a clinician, Erikson drew heavily on his observations of children. From this work, Erikson developed a deep appreciation for the nature of children's imaginary play. Erikson suggested that play provides a context in which children express and solve psychosocial conflicts. In play, children can create the problem that is troubling them, and also impose a solution, thus resolving the tension of a difficult situation. In play, children can experience mastery, explore adult relationships, and create imaginary play companions who can express feelings or actions that the child has learned to inhibit.

Many early childhood educators are involved in the education and training of preservice teachers. The concept of identity development, a central theme of later adolescence, is a key factor in college student development. Students who express an interest in early childhood education are likely

to be striving to integrate their personal values, past identifications, and future goals into a coherent personal identity. Knowledge of psychosocial theory and the identity process are essential for guiding students to reach authentic, well-integrated decisions about educational and occupational commitments.

The life span focus of psychosocial theory suggests issues for the development of early childhood educators as well as for young children. The theory emphasizes the interdependence of individuals at various stages of life. Children do not raise themselves; they are nurtured, educated, and inspired by parents, older siblings, grandparents, teachers, and mentors. The psychosocial themes that are important to adults have implications for the quality of interactions between adults and children. For example, efforts to resolve the crisis of generativity versus stagnation may lead mature teachers to ask themselves if they are making meaningful contributions to their community through their teaching. Professional development of educators and approaches to parent education are often informed by an understanding of psychosocial development

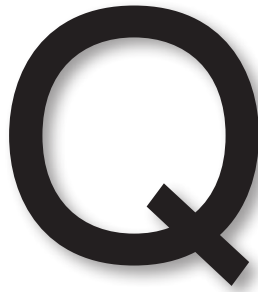
and its application to healthy ego development in adulthood.

Barbara Newman

See also Child Development and Early Childhood Education; Developmentally Appropriate Practice; Social-Emotional Development; Stage Theories; Theory to Practice in Early Childhood Education and Care

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QUALITY

The concept of *quality* is used frequently in reference to children's care and education programs. Typically the usage denotes programs as being, or not being, high quality. This entry describes how quality is tied to many different aspects of programs. Additionally, how the concept is defined or used in different ways by researchers, policy makers, and early childhood professionals is explained. Finally, the entry addresses how the concept of quality has been critiqued.

Defining Quality

The colloquial definition of *quality* comes down to this: Quality programs are those that benefit young children's learning and development. While quality is widely employed as a concept, it has not been defined in readily available, clear, and precise ways. Rather, there have been various perspectives and purposes to discussions of quality.

For many researchers and professionals in the early childhood field, the concept of quality is rooted in research about child care. Initial research was spurred by questions about whether child care was harmful to children, and it was largely conducted under the umbrella of applied child development. Thus, the well-being of children became the end-point concern. Not surprisingly, variations

in what child care looked like were quickly revealed. Investigations then focused upon aspects of out-of-home care that were related to more beneficial outcomes for children. Examinations of aspects of care that could be said to represent quality, or the lack thereof, became the focus. Influential research included a major study of child care, beginning in infancy, conducted by the Early Child Care Research Network (sponsored by the National Institute of Child Health and Human Development), the Cost, Quality, and Outcomes Study, and the Head Start Family and Child Experiences Study (FACES).

From the 1980s onward, a rich body of research was generated through these and other studies. Generally, research has suggested that the benefits of higher quality child care to young children span across the social-emotional, language, and cognitive areas. This record of research, both its evolving agenda and thrust, and the findings, have solidified the concept of quality in the early childhood field.

Components of Quality

The research base, alongside policy and practice, has resulted in a perspective on quality that encompasses several different components. These components have received more or less attention from researchers and have been embodied differentially in policy efforts or practice guidelines.

Group or Classroom Structure

How groups of children or classrooms are structured has been an early and consistent focus of attention. Most consideration has been directed to the size of the group and the ratio of children to adults. Research has generally supported the relationship between smaller group sizes and fewer children per adult and more positive outcomes for children.

Staff Qualifications

The background of both teachers and administrators has been generally found to support better outcomes for children; the result has been an increasing focus on specific training and support for administrators as well as a focus on increasing expectations within the field for teachers to have college-level education specifically tied to early childhood (note that this could be a bachelor's degree, but also an associate's degree or a number of credits within early childhood).

Along with group structure, staff education and experience have also been widely studied, as well as embedded in policy. As a group, these components (frequently referred to as structural quality) represent quality in ways that can be regulated through policy and used in quality rating and improvement systems (QRISs) to spur programs toward higher quality.

In addition, program accreditation efforts, such as those administered by the National Association for the Education of Young Children and other groups, include expectations for structural quality that are often more stringent than state-level oversight bodies.

As the theoretical base for quality has developed, structural components of quality have been hypothesized to set the stage for what happens in classrooms among the teachers and children. Thus, smaller groups, with fewer children per teacher, adept administrators, and teachers with specialized education allow for processes in the classroom that have become a crucial focus for conceptualizing quality.

Interactions

Interactions have been a major focus of the research work on classroom processes. Quality

interactions between adults and children have been described as positively focused, sensitive and responsive to children, and individualized to meet their developmental and learning needs, based upon the research.

Generally, only a small number of methodologies for examining what happens in classrooms have been adopted for policy and practice. One, the Environment Rating Scales (ERS), said to assess global quality, is discussed later in this entry. The second instrument, which has rapidly gained stature in conceptualizing quality, is the Classroom Assessment Scoring System (CLASS).

CLASS instruments focus separately on infant, toddler, prekindergarten, and kindergarten through third grade groups. They share an orientation in which quality interactions are conceptualized as consisting of three domains: the emotional support provided by teachers (e.g., responsiveness to children's perspectives, emotional connections, sensitivity), the organization of the classroom (e.g., effective behavior management, the ability to maximize time for learning and the children's engagement), and the instructional support of teacher's interactions (e.g., developing concepts, facilitating language, and using effective feedback). The CLASS is now used for program monitoring in the federal Head Start program and in some states' QRIS structures for child care.

With the CLASS there is a greater focus on teaching and learning interactions than was previously evident within policy arenas. In addition, more specialized focus by researchers on particular components of interactions, such as literacy or math teaching and learning, has grown in the field. The impact of these lines of research is realized more directly in the area of curriculum development. With regard to practice, program accreditation bodies have varying emphases on interactions that both reflect the importance of interactions in the field's perspective on quality and act to further fix the concepts as integral to quality.

Arrangements for Learning

The consideration of processes within classrooms points also to the role of arrangements for

learning provided by components such as the materials provided to children, the physical environment, and the scheduling of activities. Each of these components may provide a range of opportunities and affordances for the processes involved in education and care.

This particular component of quality has been highly influential in policy and practice because of the heavily used Environment Rating Scales (ERS). The family of ERS instruments includes the Infant/Toddler Environment Rating Scale, the Early Childhood Environment Rating Scale, the School Age Care Environment Rating Scale, and the Family Child Care Environment Rating Scale. The ERS instruments are intended to assess “global” quality of classroom processes. The various subscales include the physical environment, curriculum and materials, routines and care, schedule and structures, interactions, and parents and staff.

The Early Childhood Environment Rating Scale was revised in 2014, with one aim being to strengthen the capacity of the instrument to predict child outcomes. Among the revisions are the addition of more items related to literacy and mathematics and a greater focus on interactions among children and teachers, which leads to some de-emphasis on provision of materials and arrangement of space.

The ERS instruments have been heavily used by researchers, particularly during the growth of research in quality described previously. Additionally, they play a prominent role in many states’ QRIS processes and have been promoted as a tool for program self-assessment. Their wide use, easy availability, and wide range of types of items have resulted in the ERS instruments being a dominant influence on perceptions of quality.

Curriculum and Approach

The components of quality discussed thus far have been the most influential in the work of researchers and policy makers. In these areas, instruments have been devised for research, and some of these have been transferred to the policy arena to support efforts to define levels of quality and facilitate quality improvement work.

There have been research efforts to examine early childhood curricula in relation to children’s outcomes. However, linkages between curriculum and quality-focused policy are not dominant in the United States. There are a number of different approaches to curriculum, and the market system has resulted in many easily available products. Policy may set some conditions for curriculum choice, such as Head Start standards that call for a “research-based” curriculum. However, curricula are not typically identified as either reflecting high quality or lacking in quality.

On the other hand, curricular approach is highly tied to notions about quality within the profession via definitions of best practice. For example, through three iterations, the National Association for the Education of Young Children’s (NAEYC) developmentally appropriate practice (DAP) guidelines have coupled quality of children’s experiences to particular forms of curriculum practice. Throughout all versions of the guidelines, quality education and care have been linked to knowledge about child development theory and individual children. In the second iteration, context and culture were added to these “starting points.” The original document was strongly constructivist in orientation, with more emphasis on guided instruction in literacy and mathematics added in later editions. In NAEYC’s 2009 position statement on DAP, the guidelines promote the importance of scaffolding children’s learning in consideration of research-based delineations of typical learning sequences. Children’s content-based learning and a focus on achievement gaps have grown in importance as reflected in best practice guidelines, thus impacting perceptions of quality.

Early Learning Guidelines

Early learning guidelines, or standards, are a rather recent, but now firmly rooted element of policy and practice in early care and education. From state to state, guidelines vary tremendously in how they are written—more or less detailed, structured around content disciplines or developmental domains, and inclusive or not of examples of teacher practices. What they hold in common are expectations for

children's learning and development. Underlying early learning guidelines is the belief that high-quality practices in early care and education are promulgated by intentional teaching decisions. The guidelines serve to support those decisions and thus are viewed as promoting quality.

Continuity

Research has linked lower turnover and higher wages to higher quality experiences in classrooms. While difficult to translate to large-scale policy change, these findings have been central in advocacy efforts. Continuity, reflected in longer term placements of children with teachers, has been advocated as reflecting quality, although the research here is limited.

Critiques of the Quality Concept

As has been evident in this discussion, researchers and policy makers have had great impact on the development of ideas about quality. There is concern that the voices of other stakeholders, such as families and children, have been relatively unheard.

Others have pointed out that the emphasis on measuring quality has led to a focus on average, or typical experiences. The concern here is that each child experiences an early care and education setting individually; the setting characteristics and processes that lead to one child's high-quality experience may not operate the same for another individual.

Because research has tended to produce universal definitions of quality and policy that have tended to be prescriptive, some have pushed back against these processes. They argue that this work stems from unexamined values and promotes normalization of these ideas without critique within the field. One question is, for example, what role local values and concerns can play in the dialogue about quality.

Nancy File

See also Accreditation; Child Care Quality and Young Children's Behavior; Early Childhood Research and Policy Linkages; High-Quality Early Education, Long-Term Benefits of; Quality Rating and Improvement Systems

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QUALITY RATING AND IMPROVEMENT SYSTEMS

A quality rating and improvement system (QRIS) is an organized method to assess, improve, and communicate the quality of early childhood programs in centers, schools, and home-based settings. QRISs are a relatively recent state policy innovation, beginning in the late 1990s. States have been regulating programs for children for more than a hundred years and have been expanding public investment in preschool programs for many decades.

The basic concept is to create standards that define several “steps to quality” from the baseline in each state (regulations) up to high quality (as determined by each state), deliver supports and incentives to providers to improve their quality, and widely publicize the ratings so consumers can make more informed choices. This concept is somewhat similar to ratings of products by Consumer Reports or AAA ratings of hotels or restaurants.

Background and Context for QRISs

At the heart of a standards-based system of early learning and development are three sets of standards that are most effective when connected and aligned.

Learning and development standards for children—often called “early learning guidelines” that describe children’s learning across content areas and progress in domains of development

Practitioner standards—the core knowledge and competencies that qualify adults to work with young children, expressed as credentials (degrees, certificates, licenses) that vary by program type and funding source and are often presented together as a career lattice

Program standards—the criteria that permit programs to operate (licensing rules) or receive certain funding (state prekindergarten standards, Head Start/Early Head Start Program Performance Standards) and standards that define good to excellent practice such as national accreditation and the progressive levels of a state’s QRIS

QRISs can harmonize and unite the range of practitioner standards and program standards and put early learning guidelines into practice. They also have the potential to promote reflective teaching practice and continuous quality improvement in all types of early learning and development programs.

Why QRISs?

QRISs developed in response to several facts.

- There is overwhelming evidence that children’s early experiences in families and communities have profound consequences for later success in school and life. The quality of early experience matters.
- Many young children are in organized programs, primarily child care, long before they enter kindergarten.
- Child care is a market that does not naturally produce high quality. Demand for quality is limited by both family ability to pay and lack of

comparative information on program quality. Price competition among suppliers keeps their quality investment low.

- Most programs for young children are of unknown quality, with the exception of those that meet national standards such as the Head Start standards or those of accreditation bodies such as the National Association for the Education of Young Children.
- Regulatory systems are not primarily focused on quality, but on minimum standards intended to define the threshold for legal operation in a jurisdiction.

When Did QRISs Begin?

Recognizing these facts, states began to define levels of quality between the state’s licensing rules and national quality standards to provide a pathway for improvement for programs and a measure of quality that can be reported publicly to inform consumers. The earliest states to develop statewide QRISs—Oklahoma in 1998 followed by North Carolina and New Mexico in 1999—embedded these levels of quality in their licensing rules, thus ensuring that all programs subject to state regulation were included in the QRIS. Later, states developed voluntary QRISs that build upon but are separate from regulation.

What Defines a QRIS?

Analysis in 2005 of the first 10 states operating QRISs revealed that these state systems had a common structure of five elements. These elements have become the basic definition of a QRIS.

1. *Standards* describing progressive levels, usually three to five, from basic licensing standards to high quality as defined in each state
2. *Accountability*, including assessment of compliance with the standards based on document review, and on-site observations using valid and reliable tools such as the Early Childhood Environment Rating Scales (ECERS), more recently Classroom Assessment Scoring System (CLASS) that lead to ratings (levels)

3. *Quality improvement supports for programs and practitioners* promoting participation in the QRIS and offering technical assistance and mentoring for programs to improve overall quality and coaching and professional development for staff

4. *Financial incentives* supporting the increased cost of producing high quality; including one-time awards for physical improvements (minor renovation, equipment, etc.), ongoing regular quality awards pegged to quality level, awards keyed to staff qualifications to increase compensation, and incentives designed to increase the proportion of low-income children in higher quality settings

5. *Communication and outreach* about the QRIS itself encouraging program participation and increasing awareness by consumers and publicity of the ratings once reasonable participation is reached so that consumers will be able to find quality programs

A QRIS is an intentionally transparent definition of the progression of program quality from basic to excellent. The design challenge is to clearly state the progression of quality (the continuum of quality improvement), while keeping documentation efficient and manageable for all types of participating programs, and for the state and others operating the system.

The heart of a QRIS is its standards, which represent a combination of evidence-based criteria, items that are important to consumers such as teacher years of experience, and items that have particular relevance to the population in a given state such as development of dual-language learners. The most common major categories of standards across contemporary QRIS are

- staff qualifications, including the credentials in use in the state;
- learning environment, teaching, use of early learning guidelines;
- family engagement; and
- management and leadership, including administration and support for practitioner reflective practice.

Group (or class) size and the ratio of adults to children are both strongly related to measures of program quality and to improved child outcomes. States that have group sizes and ratios that are unfavorable to children (or not included) in their licensing rules often place group size and ratio in their QRIS standards. This is especially true if the political and regulatory process of directly improving the content of state regulations has been difficult (or impossible). For example, over time in one of the earliest QRISs in a state that incorporates licensing rules as the bottom level, the licensing rules have been able to be raised when the large majority of programs at the first level of the state QRIS were able to meet the QRIS level above them. This has happened twice so far, much improving circumstances for children.

How Are QRISs Structured?

There are three common QRIS structures: (1) blocks, (2) points, and (3) hybrid (or combination). The earliest QRISs all used a block structure. More recently states have begun to develop or redesign QRISs as points or a hybrid. In 2014, the rough split among states' QRISs is that half have a block structure, about a quarter have a points system, and about a quarter use a hybrid system.

Block structures require all items at one level across all categories to be met before advancing to the next level. Blocks are based on the concept that quality is cumulative and progressive; this structure assumes that the quality and characteristics of programs on the same level are fairly similar. This is believed to be easiest to communicate to consumers because it is most like other rating systems, such as those for hotels.

Points systems, on the other hand, are based on the concept that quality can be expressed in a variety of ways based on a program's strengths. Providers desire to show their unique strengths and families appreciate the more specific information. The categories of standards express the overall definition of quality. Each criterion is assigned a number of points. Generally, to assure some equivalence within a given quality level, points

systems require that points be earned in each category of standards. The total points earned across all categories determine the level.

More recently developed QRISs have combined these approaches into a hybrid model, sometimes called a combination model. Generally the lower level(s) are blocks (all criteria must be met) and points are earned across categories to reach higher levels. Or certain items must be met (points earned). This structure reflects the belief that the basics of quality (the blocks, or required items) are necessary conditions that should be achieved by all programs. The other aspects of quality are expressed more individually by a program. Consumers can see that all programs have met basic standards and then search for those programs that match their needs and desires for their children.

A few states that have block structures report to consumers the highest level achieved in each major category of standards as well as the overall rating. The overall rating equals the highest block level that is achieved in all categories. This retains the block structure while providing more information to the consumer.

Recent Developments in QRISs

QRISs have spread rapidly from state to state through an osmosis-like process that has been effective because the concept of rating is straightforward and familiar, and the concern about school readiness and the quality of ECE has taken on higher public importance. In 2005, 10 states were operating a statewide QRIS and 25 states were in some stage of exploring, planning, or piloting. By 2014, there were 38 states operating a QRIS, 12 in some stage of development, and only one state without any QRIS activities. By contrast, the first wave of states establishing state-funded prekindergarten programs began in the 1960s and more than 50 years later there are still 10 states without such programs.

State development of QRISs was recognized in 2011 by the federal government in the first Race to the Top Early Learning Challenge (ELCG) grant competitions. The ELCG laid out five key reform areas, one of which was “Defining High-Quality,

Accountable Programs by creating a common tiered quality rating and improvement system that is used across the State to evaluate and improve program performance and to inform families about program quality.” The term *tiered QRIS* was used to reinforce that a QRIS is a set of progressive quality standards, rather than one standard.

QRISs Moving Forward

The QRIS National Learning Network (QRIS-NLN) began in 2009 to provide a forum for exchange among national and state leaders and sponsor a website and an annual meeting focused on QRIS policy and practice. Research on QRISs has expanded with support from the federal Office of Planning Research and Evaluation in the Department of Health and Human Services via a network of researchers called INQUIRE. One result is the 2010 *Compendium of Quality Rating Systems and Evaluations*. In partnership with the QRIS-NLN, the QRIS Compendium is now a searchable online database.

Newer QRISs are not just focused on child care but intentionally include all settings for young children, for example, Head Start, prekindergarten, and public schools. Most QRISs are reviewed and revised every 3 to 5 years to incorporate new knowledge, streamline processes, focus on more powerful predictors of later child outcomes/school readiness, and better function as a common accountability system for all funders. QRISs appear to be firmly embedded in state policy.

Anne W. Mitchell

See also Classroom Assessment Scoring System; History of Early Childhood Education Policy; National Association for the Education of Young Children; Policy and Early Childhood Education; Quality; State Policy Making

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 QRIS National Learning Network (QRIS-NLN): <http://www.qrisnetwork.org>

QUALITY THROUGH COLLABORATION: OKLAHOMA'S QUALITY INITIATIVES

Oklahoma is considered to be the first state to create a comprehensive statewide quality rating and improvement system (QRIS) for early care and education with the creation of its Reaching for the Stars initiative in 1998. This entry discusses initiatives that began in the early 1970s and led to the state's QRIS. These initiatives have provided, and continue to provide, smooth pathways for individuals to grow as professionals in the field of early care and education.

Betty Stratton, a child development specialist at Oklahoma State University Cooperative Extension Service, began work in the early 1970s on a professional development plan for child care staff in Oklahoma. At this time, child care was becoming an important aspect of the U.S. economy as an essential service for families. Oklahoma's licensing standards for child care providers required that they have a high school diploma or its equivalent. There was no ongoing training for staff and directors in the 1970s. Over the next 30 years, Stratton and others

developed Oklahoma Training for Child Care Careers, which eventually became a nonprofit entity called Child Care Careers Inc. A statewide advisory committee, with representatives from all sectors of the early care and education community, was brought together to identify needs of child caregivers and effective strategies for training child care staff.

Stratton was the first author of a child care course of study and other authors were identified to create additional courses that included caregiver and trainer guides for each course. Volunteer trainers were identified to teach each 10-hour course. Criteria for trainers and a system for approving trainers were created. At completion, caregivers would have enough hours to obtain a Child Development Associate (CDA) national credential. By 1998, there were about twenty-six 10-hour courses for child care staff, 10 courses for family child care home providers, and specific courses for center directors. Funding was provided by the Oklahoma Department of Human Services—Child Care Division (OKDHS) as it was designated the lead agency in 1991 to administer the newly federally funded Child Care and Development Block Grant (CCDBG). In 1998, Child Care Careers, Inc. was integrated into the Center for Early Childhood Professional Development at the University of Oklahoma.

In addition to the work of Child Care Careers, Inc., resource and referral agencies in Oklahoma opened in the greater metroplexes of Oklahoma City (Rainbow Fleet) and Tulsa (Child Care Resource Center) in the late 1970s. The agencies served family child care home providers with a mobile toy lending library and families with information on locations of child care in each community. Currently, the Oklahoma Child Care Resource & Referral Association oversees eight regional branches whose purpose is to provide accreditation resources, training, and support for child care centers and family child care homes in rural and urban areas.

Focus on Diversity

As professionals in the field of early education continued to examine ways to improve early education, Ruth Ann Ball and Mary Lou Acers initiated meetings of interested professionals to learn about

and reflect on their understandings of diversity. The series of meetings was followed by a weekend retreat in 1992 for interested faculty and teachers of young children to discuss ways of becoming more inclusive in their teaching of adults and children; it was attended by 40 early childhood higher education faculty and teachers of young children. The Oklahoma Association for the Education of Young Children, the Southern Early Childhood Association, the Federation of Jewish Women, and the State Department of Education provided funding for the retreat. Louise Derman-Sparks's anti-bias curriculum approach was utilized to raise awareness of personal biases and strategies for inclusion in teaching. Outcomes of the meetings and retreat included greater awareness of diversity through changes in college course syllabi, the first diversity conference in the state, greater acceptance and inclusion of all cultures in early care and education settings, conference presentations, and efforts to make sure professional boards include a diverse membership.

Beginnings of Universal Pre-K

Ramona Emmons Paul began work in the Oklahoma State Department of Education in the early 1980s to implement a pilot preschool program for 4-year-olds in 10 Oklahoma public schools. This project required that Oklahoma policies be changed to monitor early childhood classroom size and curriculum content. Ultimately, this pilot led to the nationally known universal half-day pre-K program in Oklahoma for 4-year-olds in public schools. Environments appropriate for young children and early childhood teacher certification are required for all of the state's pre-K classrooms. Bridges are still being developed among the multiple systems that exist for early care and education for children from infancy through age 8 in Oklahoma: child care, Head Start, and public schools.

Moving Forward to Strengthen Staff Qualifications

The early childhood education and care professional development movement expanded in the

1990s with a team of eight early childhood professionals representing the Oklahoma Department of Human Services, the state Department of Education, resource and referral agencies, community colleges, 4-year colleges, universities, and the Oklahoma State Career Technology Office. These individuals were tasked with improving the quality of child care centers and family child care homes and building on the Oklahoma child care careers work that began in the 1970s. At the same time that Oklahoma was involved in this initiative, the National Association for the Education of Young Children (NAEYC) held its first professional development institute in Los Angeles, California. At this institute, early childhood professionals from Wheelock College shared a perspective of the vision for professional development for the entire country. The core group of early childhood professionals working to strengthen professional development in Oklahoma met to create a vision statement for early education in the state. The vision statement was adopted by the state's Early Childhood Professional Development Team.

Our vision for the early childhood profession in Oklahoma is that all programs for young children, in whatever setting, will provide high-quality developmentally appropriate care and education, and, furthermore, that early childhood professionals be well-paid, knowledgeable individuals who demonstrate high-quality performance that results in better educational foundations and quality of life for all of Oklahoma's children. (unpublished)

In 1993, Governor David Walters issued an executive order supporting the efforts and vision of the professional development team. With this support from the Office of the Governor, Ball was hired as coordinator of the Early Childhood Professional Development Team in the summer of 1994. An agreement was made with the University of Oklahoma, College of Education to house the coordinator who worked in partnership with an early childhood faculty member, Loraine Dunn. Dunn created a comprehensive training survey for

child caregivers to collect information on training backgrounds, existing training, and unmet needs and partnered with Deborah Norris from Oklahoma State University to conduct research on the impact of the professional development work. Their work found increases in the quality of care in licensed child care centers in the state, as discussed later in this entry.

Funding from the federal CCDBG was used to move the initiative forward. In an effort to remain inclusive and transparent, the coordinator and professional development team met quarterly and held annual retreats in a geographically central location. It was critical to obtain input from the larger early care and education communities; therefore, working committees were representative of staff and directors of child care centers and family child care homes, regional Head Start, Tribal Child Care and Head Start, community colleges, 4-year colleges, universities, career technology centers, school-age care, and private and public schools. Focus groups were held and sessions were facilitated at state and local professional child care and family child care home conferences. As many as 100 individuals participated on the working committees to involve all sectors of early care and education.

Training consultants were hired for a 2-year period in four corners of the state to train and support staff in child care centers and family child care homes and to make efforts to integrate Head Start training with child care training. In addition, two school-age consultants were hired to work on issues related to school-age care, one covering the western half of the state and the other the eastern half.

Early care and education initiatives during the 1990s focused on four areas: (1) compensation, (2) documenting individuals' professional development, (3) preservice training, and (4) articulation.

1. *Compensation.* A brochure was created to inform legislators, parents, and those in power positions about the salary of child care staff. Oklahoma also participated in a national study on funding for early childhood education led by

Louise Stoney, a consultant specializing in early care and education finance and policy. The state also implemented a scholarship model based on the model of the North Carolina Teacher Education and Compensation Helps (T.E.A.C.H.) Early Childhood Project and created a compensation system called REWARD, which provides incentives for teachers in child care centers and homes to obtain additional education and be rewarded for their efforts.

2. *Professional Development Record.* The state of Washington provided a model based on criteria of the national CDA credential to document the training and education of individuals. The model was retrofitted to Oklahoma's needs. Funding was obtained from a NAEYC Membership Action Grant to provide every staff member in Oklahoma DHS-licensed facilities a copy of the professional development record form. Education was provided for staff on how to complete the record and early childhood professional conferences were organized to solicit sessions that would fit criteria on the grid.

3. *Preservice Training.* Criteria for sessions at state early childhood professional conferences were established based on the CDA competencies. Committees were created to approve topics and qualified trainers using guidelines from the early Child Care Careers, Inc. program. Modules for educating trainers to utilize appropriate teaching strategies for adult learners were developed.

The Entry Level Child Care Training Committee (ELCCT) was formed. OKDHS licensing rules required that 20 hours of entry-level training be completed within the first year of employment in a licensed early childhood setting. It now requires this training to be completed within the first 90 days of employment. Entry level training tailored for family child care home providers and directors is available in-person or online.

In 1997, work began on the OK Training Approval System, OK Early Care and Education Recognition System, the Early Care and Education Career Pyramid, planning for the OK Director's Credential, and the "I Am Your Child" campaign.

The Career Pyramid provides guidance to individuals who teach young children or are considering entering the field of early care and education and serves as a model for other states. The pyramid illustrates professional work opportunities available at the completion of each level of education. The Trainer Approval System provided guidelines for those who want to become trainers and has now become part of the Oklahoma Professional Development Registry. To be approved, individuals must complete a series of modules that support appropriate adult learning strategies.

4. *Articulation.* The first meeting to bring together child development faculty from career technology centers, community colleges, 4-year colleges, and universities was held to explore similarities in coursework syllabi and textbooks utilized in child development and early education class.

A second symposium on articulation was held at Rose State College, and staff of the Oklahoma State Regents for Higher Education guided conversations regarding articulation and credit for prior learning. Early childhood faculty and administrators from all postsecondary institutions were engaged in the process that would provide for students to make easier transitions from one institution of higher learning to another. For example, students who earned an associate degree in early childhood education at a community college would have necessary information and transfer credits to begin a bachelor's degree at a 4-year college or university.

Institutional Change

In 1998 the Center for Early Childhood Professional Development (CECPD) was created using federal CCDBG funds which were funneled through the OKDHS Licensing Services to carry on child care quality work. Charlotte Hollarn was the first director of CECPD followed by Susan Kimmel. The purpose of CECPD was to bring together many child care services that had been housed at other sites. CECPD became the home for Oklahoma Training for Child Care Careers,

video lending library, scholarships for education, and a news magazine for providers.

In 1999, CCBDG funding, provided through OKDHS Licensing Services, was used to form the Oklahoma Child Care Resource and Referral Association, which expanded and coordinated statewide service delivery and uniform data collection to achieve a quality child care system for all Oklahoma families through community-based resource and referral services. In the same year, support from Wheelock College gave impetus to the "Taking the Lead" project, which created a credential program for child care directors providing levels of achievement at the bronze, silver, and gold tiers for directors who work in licensed child care settings. In 2000, school-age programming was added as well as director training and training for CDA advisers who observe CDA candidates and assess their teaching performance.

Oklahoma's QRIS, the Reaching for the Stars initiative, is a tiered system where the lowest star rating signifies that a program meets minimum licensing standards, and higher ratings indicate that a program meets these licensing standards as well as additional quality criteria. The goal was to improve the quality of early care and education programs attended by the highest risk children. Judy Collins and Nancy vonBargen, officials with the state Office of Child Care, were instrumental in strengthening licensing regulations. Under Reaching for the Stars, in order to receive a two-star rating and higher levels of reimbursement, as of 2015, child care programs had to have a certain number of master teachers with an early childhood credential or a college degree with credits in child development, early childhood education, or the equivalent. The increase in education requirements for staff has resulted in improvements in early care and education programs in terms of positive teacher-child interactions.

Oklahoma's professional development initiative included implementing continuing education units (CEUs) for training so that individuals could record their training for use toward receiving or renewing a credential, and encouraging credit for prior learning at postsecondary institutions. The

state also consolidated scholarship awards at the Oklahoma State Regents of Higher Education Office in 2004 and began the Scholars in Excellence program, which provides Scholar Coordinators at every community college with an early childhood program to recruit and support individuals who work with young children and encourage them to obtain an associate degree. This initiative also provides scholarships and support for obtaining the CDA credential.

In 2005, the state's Early Education Professional Development Council voted to develop a single curriculum for the CDA to ensure statewide consistency and accountability and for scholarship purposes. In 2013, this curriculum was revised to meet new CDA 2.0 requirements and to include requirements for another national credential, the Certified Childcare Professional (CCP). Community colleges continue to become accredited through the National Association for the Education of Young Children (NAEYC) Associate Degree Accreditation Program, whose criteria support articulation of child development coursework.

Ball authored, received, and directed two grants intended to support child care staff and directors to obtain training to improve child care quality and strengthen partnerships. One grant from the Head Start Collaboration Project in 2003 called Partners in Change brought an opportunity to provide professional development for regional Head Start and Tribal Head Start and Child Care. The second grant (1999–2001) was an apprenticeship project with funding that was received from the U.S. Department of Labor to support teachers in child care facilities to obtain a CDA national credential.

As the quality assurance initiatives continued, the early childhood field in Oklahoma moved toward acceptance of higher levels of professional development requirements in licensing regulations: a professional development registry for child care staff and directors, approved training based on national CDA criteria, the Stars system for recognizing centers and homes, and environment rating scales (ERS) assessments.

A professional development subcommittee of the Oklahoma Partnership for School Readiness (OPSR) was appointed to coordinate the professional

development for the early childhood system in Oklahoma. OPSR focuses on strengthening families and school readiness for all children. OKDHS Licensing Services brought together individuals to focus on professional development as it impacts licensing requirements for staff.

As of 2015, the Reaching for the Stars system in Oklahoma had four levels for child care programs: one star, one star plus, two stars, and three stars. At that time, it had plans to introduce changes to the system that included requiring all one-star licensed child care centers to have staff become part of the Oklahoma Professional Development Registry and develop a professional development plan. These requirements are intended to increase the quality of existing one-star centers, particularly in relation to family engagement, professional development, and qualifications for master teachers. Funding availability continues to cause changes in the services that are provided to maintain and enhance quality in all Oklahoma early childhood settings. Collaborations continue with the State Department of Health through a “warm line” with child care consultants to answer questions related to children's behavior in the classroom and for making appropriate referrals for additional services for individual children.

QRIS advocates continue with initiatives to professionalize early care and education programs. At the 2015 QRIS National Learning Network, early childhood advocates and policy experts shared information about reducing the fragmentation in early education through establishment of a common universal purpose, a defined body of knowledge and practice, a collective professional identity, and accountability. Advocates for QRISs in Oklahoma made early contributions to this understanding through their strong collaborations and commitment to quality care and education for all young children.

Outcomes

Phase I of a longitudinal study by the Early Childhood Collaborative of Oklahoma found that the quality of care for all Oklahoma preschool children in licensed centers was higher in 2002

than it was in 1999. Higher quality was evidenced through

- sensitive interaction of caregivers,
- increased star levels at substantial numbers of centers,
- decrease in staff turnover rates, and
- better care for children receiving state subsidies.

Unfortunately, planned later stages of research on the Oklahoma QRIS system had not occurred as of 2015. A lack of funding has prevented additional studies from being completed.

Ruth Ann H. Ball

See also Accreditation; Prekindergarten; Professional Development for Diversity; Professionalism; Quality Rating and Improvement Systems

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- Oklahoma Child Care Resource and Referral Association: <http://www.oklahomachildcare.org>
- Oklahoma Department of Human Services: <http://www.okdhs.org>
- Oklahoma Partnership for School Readiness: <http://www.smartstartok.org/opsr>
- Smart Start Oklahoma: <http://www.smartstartok.org>
- T.E.A.C.H. Early Childhood Project–North Carolina: <http://www.childcareservices.org/ps/teach-nc/>

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READ-ALOUDS

Read-aloud is a term used to describe the process of sharing books by reading them out loud so others can take part in the story experience. In general, the term refers to a method through which parents, teachers, and other more experienced readers share stories with children. Read-alouds play a crucial role in the language and literacy development of children and can strongly impact the academic success of young readers. This entry provides information related to the rationale for using read-alouds, the benefits of read-alouds, and recommended guidelines for conducting read-alouds with children.

Rationale for Using Read-Alouds

Read-alouds provide an avenue through which even the youngest children can access and enjoy literature. As caring adults share books with children, they convey their own enthusiasm for reading, sending the message that literacy transactions are a priority and worthy of dedicated time within the daily routine. Early read-alouds frequently serve as children's first opportunity to explore books with varied print and visual texts, offering them an entryway into the worlds of both literature and art.

Home read-alouds often take the form of bedtime stories or occur within the context of a "lap

reading" setting. These informal readings tend to be more interactive than performative, modeling the concept that literacy is social in nature. With planning, teachers and caregivers can provide similarly supportive settings for read-alouds within the classroom. When reading occurs in these types of warm, supportive environments, children are more likely to see reading as a social, joyful experience, which sets the foundation for a positive approach to literacy learning throughout the years.

Read-alouds can serve as excellent models for how one might engage with texts. As adults share favorite stories with children, they provide models for ways in which print and visual story lines can be interpreted and expressed to others. They provide a scaffolded experience that supports emerging readers as they learn to construct meaning from texts. These factors, along with the sheer accessibility and relative ease of implementing read-alouds, contribute to making them a significant educational strategy that can be used across age groups and in varied settings.

Benefits of Read-Alouds

Read-alouds offer myriad benefits and are associated with numerous affective and academic gains. Not only do positive read-aloud experiences usher children into the joy of reading; they also help children to learn a number of basic skills associated with early literacy learning. As children take part in read-aloud experiences, they learn concrete

book handling skills and the basics of how books work. Children who regularly take part in read-alouds begin to internalize story structure, making it easier for them to understand basic literary components and to anticipate characteristics of the beginning, middle, and end of stories.

Research indicates that regular exposure to read-alouds has an impact on children's ability to differentiate between oral and written language structures. Participation in read-aloud experiences is also shown to have a positive effect on children's listening skills and contributes to the development of enhanced comprehension and expanded vocabulary knowledge. As children look closely at a text and hear the corresponding story read aloud, they develop a greater awareness of print and are supported in their emergent literacy development. Adult readers can provide children with high-quality models for fluent, expressive oral reading and can demonstrate effective ways of navigating different concepts of print. Read-alouds provide a venue through which children can learn about more complex concepts and comprehend more sophisticated story lines than they might be able to navigate through their own independent reading.

Recommended Practices

The quality of the read-aloud experience is impacted by a number of factors including text selection, prosody, and opportunities for reader interaction. In terms of text selection, books should be chosen that are developmentally appropriate for the audience and that are characterized by high-quality print and visual texts. The careful selection of a text allows for the read-aloud to contribute to meeting specific goals that might range from the introduction of a concept, curricular enhancement, exposure to a literary genre, identification with a particular character or story line, or the sheer enjoyment of the story.

Prosody, which embodies the intonation, expression, pitch, and pacing that characterizes the act of reading aloud, strongly impacts listeners' ability to both comprehend and enjoy the story experience. Readers can enhance their presentation through

the incorporation of a dramatic element or animated tone, the use of different character voices and sound effects, and by appropriately changing the volume or pace of the reading to enhance the meaning or emotional pull of the story.

Research indicates that children benefit the most from read-alouds that are interactive and invite their participation before, during, and after the reading of the story. Readers can involve listeners by setting a purpose for listening, inviting predictions about what will happen next, encouraging observations, and asking engaging questions. Readers can also involve listeners by inviting them to join in repeated refrains or to take turns reading different parts of the story.

Significantly, read-alouds provide a time for children and adults to bond emotionally, as they engage in quality discussions about a story. These discussions not only support the development of expressive language skills, but also provide the opportunity to make important connections between literary and life experiences.

Patricia A. Crawford

See also Children's Literature; Expressive Language; Literacy; Reading; Storytelling and Story Acting

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READINESS ASSESSMENTS

School readiness has been defined by the Gesell Institute of Child Development as a set of skills and behaviors that allow a child to cope and learn in a school environment, physically, socially, and emotionally as well as intellectually, without undue stress. So what does school readiness look like and how is readiness assessed in children who are about to enter school or preschool?

The concept of school readiness was first popularized by the maturationists in the early part of the 20th century. Maturationists proposed that while all children pass through the same stages and sequence of development, each child has his or her own pace and rate of development. This rate or pace of development was influenced by heredity, temperament, culture, health, intelligence, and environment—and by birth date. *School Readiness* by Francis Ilg and Louise Bates Ames was first published in 1964 and updated in 1965 and 1972. The Gesell Institute of Child Development published one of the most popular kindergarten readiness assessments on the market during the 1960s and 1970s. A wide variety of commercial readiness assessments can be purchased today, and schools and districts develop their own measures, as well.

In 1993, the National Education Goals Panel proclaimed that all children should come to school ready to learn. The reality is *all* children *are* ready to learn, but the question remains, *what* things are they ready to learn. All public schools are bound by law to meet the learning needs of each child who, by legal age, walks, crawls, or is strolled through the door on Day 1 of the new school year regardless of readiness or birthday or disability. The passage of the No Child Left Behind Act in 2001 brought greater accountability to schools and increased testing at all grade levels, including the early years, to show adequate yearly progress. The Common Core State Standards, released in 2010 and adopted in 45 states by 2012, outlined exactly what each child has to know and be able to do at each grade level K–12 in literacy and mathematics. As a result of these three events,

school officials are more stalwart than ever that children need to be “ready” at all levels—ready for pre-K, ready for K, and ready for Grade 1. They are even talking about being ready for college in elementary school! But coming to school ready is the most important step because school success has a domino effect through the years.

It can be difficult to understand readiness and how to assess it in today’s young children, however, even though most schools are giving readiness assessments and there are plenty to choose from in the commercial market. There are many definitions, conceptual characteristics, and reasons to use school readiness assessments. Some believe readiness assessments measure a set of academic skills that a child must master, some believe a readiness assessment reveals where the child is on the path of development and informs the teacher as to what the child needs to learn next, some use a readiness assessment as a gatekeeper for those who will be or will not be admitted into a certain program, and still others believe that readiness assessment reveals what the teacher or program did or did not teach adequately.

According to Kelly L. Maxwell and Richard M. Clifford, one readiness assessment cannot be used for multiple purposes. Therefore, schools, programs, districts, and states must clearly define what they see as the characteristics of readiness, purpose for readiness assessments, and how the assessment(s) will be used and administered. Readiness assessments should be part of a complete assessment system. Designing an assessment system ensures that children are not overassessed and that multiple assessments working in synchrony meet the needs of the school.

The most important reason to use a readiness assessment (or any assessment) is to ultimately help the teacher help the child. Here are recommendations, based on expert consensus, for selecting or creating a readiness assessment for young children:

1. Purpose of the assessment must be clear.
2. Matches the program’s or teacher’s definition of readiness.

3. Assesses the whole child: social, emotional, physical, and cognitive.
4. Based on the principles of child development.
5. Recognizes the fact that there is a “normal” range of time for skills to develop rather than being a yes/no checklist of skills.
6. Recognizes that family background, ethnicity, and gender are related to readiness.
7. Possesses the technical properties that meet the program’s or teacher’s needs.
8. Identifies strengths and weaknesses of the child.
9. Results can be communicated with parents in a meaningful way.
10. Easily administered and scored without stress to teacher and child.

Marcy Guddemi

See also Academics and Academic Assessment in Early Education; Assessment, Limitations of; Authentic Assessment; Developmental Assessment; Gesell Assessments; Interpreting Assessment Data; Multiple Methods of Assessment; Reliability and Validity in Child Assessment; Social Skills Assessments; Standards-Based Curriculum and Assessment

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the kindergarten to twelfth-grade educational process. By the time children enter the formal K–12 schooling process, there exist wide differences in the development of a variety of skills and understandings related to acquiring the ability to read. The most obvious of these various markers seems to be letter-name knowledge.

At kindergarten entry most students already know the names of most of the letters of the English alphabet (Pearson & Hiebert, 2010, p. 291; Piasta, Petscher, & Justice, 2012). But letter-name knowledge should be thought of as an indicator of much more than simply letter-name knowledge. What letter-name knowledge typically also reveals is that children develop that knowledge in literate home and preschool environments and that letter-name knowledge falls at the end of a long continuum of skills and understandings young children acquire about reading and about print. Yet in many preschool and primary grade classrooms, instruction shares few features with the experiences that lead some children to the knowledge of letter names before they begin formal schooling. This entry discusses what research has found about effective reading instruction, including access to books children want to read, and instruction by high-quality teachers who are supported by professional development.

What young children might know about print and about reading goes well beyond their knowledge of the names of the letters. Children who have experienced a richly literate life prior to entering kindergarten also can identify the front of a book, the first word in a book, and in many instances, they can even identify the first letter in the first word found in a book. These children can also identify the first sound they hear in a word and identify whether two different words rhyme with each other.

It is the children who arrive at kindergarten having already developed these various print, book, and story concepts that typically thrive at school and have little difficulty learning to read. On the other hand, when children have failed to participate in rich literacy events at home and in preschool programs, and have, thus, failed to

READING

Children begin acquiring understandings concerning reading well before they enter school and begin

develop this range of skills and understandings before they arrive at school, these children far too often struggle with acquiring reading and writing proficiencies. Frank Vellutino and his colleagues in 2007 suggested most young children at risk of reading failure have simply experienced “deficiencies in the quality and/or quantity of early literacy experiences” (p. 190). Some children experienced these deficiencies in their homes, some in their preschool and kindergarten classrooms, and some in both.

It is possible to develop some of the markers of early literacy development, such as knowledge of letter names or phonemic segmentation (the ability to distinguish individual phonemes in words), through very focused skill and drill activities. However, multiple studies have indicated that it is only when such lessons are also accompanied by rich language and literature experiences that early reading development is assured.

In fact, as Donald Hammill reported in 2004, three separate meta-analyses involving some 450 studies of the relationship between various specific abilities to later reading achievement indicated that measures of print conventions, letter-name knowledge, and written language were the most accurate and reliable predictors of later reading achievement. Other variables (e.g., phonological skills, intelligence, memory) were less reliable and less accurate predictors, though more often assessed in young children.

Given all the print and story conventions that children acquire when they are read stories and engaged in invented writing activities, and the importance of these understandings in the later development of reading proficiencies, preschool and primary grade classrooms benefit the most children when skills work is balanced by substantial emphasis on meaning and making sense of stories. The creation of “big books” that teachers of young children can use in read-aloud events makes it far easier today not only to read a story to children but also to expose them to the printed story. Teachers of young children just beginning their journey to becoming readers need to make extensive use of such big books. In fact, use of both

big books and traditional books are key aspects of effective early literacy instruction.

Differences in Print Environment

In 2002, Anne McGill-Franzen, Cynthia Lanford, and Ellen Adams reported substantial differences in the print environments between publicly funded preschools and other preschools serving children from low-income families. These differences ranged from enormous differences in the number of books available in the libraries that were located in the preschool classrooms to differences in the number of story read-alouds, and the number of opportunities for children to engage in writing or invented writing. In each case, it was children attending publicly funded preschool programs that were shortchanged. It seemed not to be a lack of funding that explained these differences but, instead, a different model of instruction that led to these differences. These various differences in program design and materials led to quite different outcomes, with children from low-income families enrolled in publicly funded preschools again failing to develop the literacy proficiencies that were observed in the low-income children attending the privately funded preschool programs.

This observed shortage of books extends upward into elementary schools serving primarily children from low-income families. As with preschools, a lack of funding seems not to be an explanation for the more restricted access children from low-income families have to books in both classroom and school libraries. Nonetheless, children from low-income families have fewer books in their homes, their neighborhoods, their classrooms, and their schools when compared with children from middle- and upper-income families. Too often, poor children reside and attend school in “book deserts.”

This general absence of books from schools attended primarily by children from low-income families as well as substantially restricted access to books in environments where these children live appears most strikingly during the summer months when children no longer attend school. We know

that children from low-income families are far less likely to read voluntarily during the summer months than are children from middle-income families. And as a result of a large-scale study conducted by Richard Allington and his colleagues (2010), we also know that providing children from low-income families with books during the summer months, books these children have selected themselves, largely eliminates summer reading loss typically experienced by children from low-income families.

Access to books that a student wants to read and books the student actually can read seems routinely superior for children from middle-income families when compared with the access that children from low-income families experience. Volume of voluntary reading is also established as a causal factor in reading development, and voluntary reading volume is linked to access to appropriate books. Yet for whatever reasons, children from low-income families have been found to read less both in school and out of school than do their more economically advantaged peers. In addition, as Barbara Foorman and her colleagues (2006) have demonstrated, time spent engaged in reading during reading lessons predicts reading growth across the school year. That is, reading lessons that feature much engaged reading by students produce greater reading growth than lessons that feature less engaged reading.

Use of Commercial Core Programs

Research has also indicated that the use of any commercial core program is an unlikely path to effective reading instruction. Peter Dewitz, Jennifer Jones, and Susan Leahy (2009) analyzed the five major commercial core reading programs. Their analysis examined the adequacy of the reading comprehension lessons provided by each program. They reported that none of these core reading programs actually offered any comprehension instruction that matched any findings in the research. They noted that too often only a week was scheduled to develop important comprehension processes, and guided practice of the

comprehension skill to be developed was lacking, as was the gradual release of responsibility. Finally, Dewitz and colleagues reported that guidelines for discussion are almost absent from these programs even though research has demonstrated the power of student discussion on reading comprehension development. Dewitz and colleagues argue that faithfully following any flawed commercial core reading program is not a recipe for improving reading development.

The limitations of commercial core reading programs were also noted in a 2006 study by McGill-Franzen and colleagues. They reported that over 25% of all third graders in the state of Florida failed to achieve the necessary reading performance to be promoted to the next grade. In other words, they argue, none of the core reading programs provided teachers and their struggling reader students with any useful support. Given the national performance record in reading achievement in high-poverty schools, it would seem that the instruction provided in core reading programs fails to meet the needs of many children.

High-Quality Literacy Instruction

What aspect of reading instruction assures that most students will develop as effective readers? The answer seems to be enrolling in the classroom of a high-quality teacher. The evidence also suggests that when schools provide classroom teachers with effective professional development, reading difficulties among students decline.

In a 2008 study by Donna Scanlon and colleagues, children in first grade were enrolled in classrooms under three different conditions—teacher professional development in the interactive strategies approach to literacy instruction, supplemental intervention services for struggling readers, or both professional development and the availability of supplemental reading intervention services. They found all three options reduced the number of children who struggled while learning to read. However, providing classroom teachers with effective professional development on enhancing the quality of their reading lessons reduced reading

difficulties to the greatest extent. In other words, too many primary grade teachers lacked the expertise needed to intervene effectively when children had difficulty. The professional development provided in this study developed that expertise.

In a 1999 study by McGill-Franzen and colleagues, professional development was provided for a sample of urban kindergarten teachers while another sample of urban kindergarten teachers served as the control group and did not participate in professional development offerings. At the end of the kindergarten year, there were clear differences in the reading achievement outcomes for children in these two types of classrooms. Most significantly, the early reading development of the urban kindergarteners enrolled in the classrooms of teachers who participated in the professional development program was accelerated into the average achievement range, while the children in the control classrooms performed well below the average achievement range. Other researchers have also found positive effects of professional development on student reading achievement.

The research suggests, then, that developing expertise of classroom teachers concerning children's early reading development leads to reading instruction that better meets the needs of at-risk students. That said, few school districts or states seem to have focused on providing such professional development activities.

Conclusion

We know more about the nature of effective reading instruction than one might expect if one simply observed reading lessons in American schools. Access to books that a child can read and books that the child wants to read is an important aspect of effective reading instruction. Yet, in American schools such access is more often the case in schools serving few children from low-income families. Access to effective literacy lessons is also an important factor and yet good analyses demonstrate that the most commonly selected instructional support—commercial core reading programs—fails to provide classroom teachers

with effective models for literacy lessons. Finally, we know how to develop the expertise of classroom teachers so that virtually all children who enter kindergarten will be reading on grade level by the end of first grade. But again, few state education agencies or school districts provide such professional development for teachers.

We can do better, particularly for the futures of children from low-income families; we must do better in crafting effective instruction that develops all children as effective readers and writers.

Richard L. Allington

See also Language Development; Language Development, Theories of; Literacy; Vocabulary

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REASONING AND PROBLEM SOLVING

Early childhood education has changed rapidly in recent years as a result of the significant increase in knowledge about how young children learn. As a result, early childhood educators are now focusing to a greater degree on experiences that develop reasoning and problem solving. Reasoning and problem-solving skills are the foundation of the learning process and need to be integrated in every area of child development. Problem solving requires that children take the knowledge and experiences that they have, in order to be able to learn what they don't know. It also includes overcoming difficulties and presenting suggestions and trying them out. Reasoning is the cog of problem solving, which involves the capacity to think through problems and apply different approaches for solving them. This entry discusses learning experiences that help to develop problem solving and reasoning in young children and how activities that integrate science, technology, engineering, and mathematics (STEM) in particular can help develop problem solving and reasoning.

Although typically problem solving and reasoning are framed into specific school disciplines, they both need to be part of any developmental and curriculum area. They should be found not only in core academic areas like science or math, but in socioemotional, language, physical, and cognitive development areas as well. A child who is exposed to an array of opportunities to apply problem solving and reasoning skills is more likely to become competent in understanding real life problems, determining what needs to be done, finding a strategy, planning accordingly, and checking to see if it works. These fundamental abilities create the groundwork for success not only in academic and social areas, but in life.

Problem solving and reasoning are skills that can be learned, and it is critical to develop those skills in the early years. Adults and teachers around children in their first eight years of life need to understand that they have to intentionally design learning experiences that support and promote the progress

of problem solving and reasoning. Children need to be exposed to different situations, materials, and experiences for them to be able to develop those skills. Through that process they will recognize, understand, and analyze a situation. They will be making choices and decisions and learning core knowledge. The students could be working to solve a problem individually or collaboratively. If they work in groups, they will also learn to communicate effectively and to validate different points of view. Play episodes are an ideal scenario for that.

Play is considered the universal language of childhood and the most effective means by which children understand each other and the world around them. It also has a vital role in an early childhood setting by enhancing reasoning and problem-solving skills. Through play, children practice what they have learned and also create new knowledge. They develop cognitively and socioemotionally while playing by themselves or with others, solving problems in the process. Constructivism is creating new knowledge by problem solving and reasoning and is intrinsically attached to play in the early years.

Developmental Stages of Problem Solving and Reasoning

Children begin to acquire problem-solving and reasoning skills early in life. The problem-solving and reasoning process begins from the moment an infant develops muscle control and hand-eye coordination. The infant will use his or her senses to explore the world and to start understanding cause and effect relationships. During the first two years, activities in which the infant and toddler can expect a reaction from an action should be encouraged. For example, toys in which the child pushes a button and something jumps out of the box, or a song starts to play, teach prediction, observation, and cause and effect.

By 3 years old children can start applying problem-solving and reasoning skills to more specific situations. The use of open-ended questions is necessary in this stage. An adult can say, "It is very cold. We can't go outside. What could we do

instead?" The children would be able to think about the problem, reason about what to do, use previous information, and then find a solution.

Older children can engage in a more scientific method to solve a problem. Between 3 and 5 years old, reasoning develops considerably. It is clear how significant it is when instead of assuming a passive role, preschool children assume an active one by engaging in generating a hypothesis, gathering data, predicting what will happen, and observing the results. They are prepared to work in groups and use verbal cues to negotiate.

By the time they enter elementary school, students start to think more abstractly. That means that they can think about a problem and imagine the solution without having to engage necessarily in a trial and error concrete activity. Around 8 years old, the problem-solving and reasoning process will be nearly developed contingent on the experiences to which the student was previously exposed.

Problem Solving and Reasoning Through STEM

One way to begin incorporating problem-solving and reasoning skills in the preschool years is through STEM activities. STEM can be defined as an approach that integrates the content and skills of science, technology, engineering, and mathematics. Through STEM children are encouraged to solve real problems through specific steps. These steps are designed to allow them to take control of their actions and apply what they have learned to solve a problem. Those steps also focus on the collaborative aspect, which allows children to interact and to see different perspectives. Based on the recent and growing research in early brain development, it becomes clear that preschool age provides the best moment to start focusing on STEM, in order to expose children to specific and concrete activities of problem solving and reasoning.

Conclusion

It is important to remember that problem-solving and reasoning skills are not isolated activities. They

need to be taught in a holistic way and as part of every aspect of a child's development. Younger children have to be exposed to experiences that allow them to create the foundation to learn the basic strategies to solve problems. Problem solving and reasoning are part of a mind-set that empowers children to think logically, critically, and ultimately, as they solve real world problems, to be active members of their community and society.

Marisel Torres-Crespo

See also Child Development and Early Childhood Education; Early Childhood Education; Integrated Approaches; Integrated Curriculum; Science; Thinking

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RECESS

Recess refers to a break from work of some type. In the adult world, a break taken by courts and legislatures is called recess. School recess is a scheduled break in the structured work of the school day when children, supervised by teachers or playground supervisors, can play with their classmates and choose their own activities.

Recess is generally held outdoors; however, during inclement weather, recess can also be held

indoors, either in the school gym, where children can play active games, or in the classroom, where children are allowed to choose from more quiet activities. Preschool children have time designated for outdoor play, but it is generally referred to as outdoor playtime rather than recess, perhaps because the rest of the day for the preschool child is not thought of as work. In the United Kingdom, recess is called *breaktime*. Typical activities during recess include climbing, sliding, running, swinging, talking with friends, jumping rope, playing ball games, playing clapping games, telling jokes, chasing, pretending, digging, and organizing games. While engaged in these activities, children lead, follow, organize, and resolve conflicts.

History of Recess in the United States

According to recess researcher Anthony Pellegrini, the origins of recess in the United States are unknown. Pellegrini notes that some early schools were built without playgrounds, which may or may not mean they had no outdoor break in the day. The ability to play without a playground was illustrated by American artist Winslow Homer, who painted an 1872 picture of boys playing “snap the whip” outside their one-room school and an 1873 picture of a boy being deprived of noon recess as punishment while other children run around outside the window. These images suggest that recess was common, at least in rural areas. In the early 1900s, the child study movement, influenced by the father of American psychology G. Stanley Hall, promoted an appreciation for the value of play and encouraged recess as a time when children could choose what they wanted to do.

Children born during the first eight decades of the 20th century likely had daily recess, often during the morning and again in the afternoon. However, *A Nation at Risk*, a 1983 document that decried the mediocrity of the American education system, was soon to increase standardized testing and discourage play as frivolous. In 1989, a survey conducted by the National Association of Elementary School Principals (NAESP) found that 90% of the nation's school districts reported at

least one recess period daily. But, soon after the NAESP survey was completed, schools began to decrease or even eliminate recess to allow more time for academic subjects.

This trend was exacerbated by the No Child Left Behind (NCLB) Act of 2001 with its focus on high stakes testing in literacy and mathematics. According to a 2008 report from the Center on Education Policy, 20% of school systems decreased recess time after NCLB, averaging cuts of 50 minutes per week. In 2011, Kathleen Burris and Larry Burris determined that 5.3% of randomly selected school systems reported increases in recess while 32.3% reported decreases.

Whether or not a child has recess seems to be a social justice issue. Although cutting back on recess may be intended to provide more instructional time, thereby closing the achievement gap between middle-income children and children in poverty, many poor children miss opportunities to engage in physical activity, practice social skills, and have needed mental breaks. In 2002, Jodie Roth and colleagues studied a randomly selected sample of children on a randomly selected school day and found that 79% of the children had recess. However, 85% of White students had recess compared with only 61% of the African American students and 75% of other minority students. Socioeconomic differences were also found, with 83% of those living above the poverty line having recess compared with 56% of those living below the poverty line. Opportunity for recess also differed by test scores, with 85% of the children above the mean on standardized tests having recess compared with 75% of those below the mean.

Not only do high-poverty schools schedule less recess, but recess deprivation is also regularly used as punishment, causing some of the most vulnerable students, especially boys, to regularly lose recess. Abolishing recess and focusing only on academics has not narrowed the achievement gap and may make classroom management more difficult. It may also have led to increased diagnoses of attention-deficit/hyperactivity disorder among children who need more physical activity than the school provides.

Policies and practices governing physical activity vary from state to state and school to school. The National Association of Sports and Physical Education recommends that elementary school students have at least 150 minutes of physical education (PE) per week and 20 minutes of recess a day. However, only a handful of states specifically require recess. According to the National Association of State Boards of Education, the recess requirements in Missouri and Hawaii specify that it should last at least 20 minutes per day, while Virginia allows the timing to be determined by the school. According to Sandy Slater and colleagues, the probability of public school third graders having 150 minutes of PE per week and 20 minutes of recess a day is greater in states with laws requiring PE and encouraging recess.

Recess in Various Countries

In many countries children have more recess than U.S. children have. For example, students in the United Kingdom have breaktime in the morning and afternoon and long lunch periods that allow time and space for play. Many Japanese children have 10 to 20 minute breaks between 45 minute lessons or 5 minute breaks between lessons and a long lunch. Finnish and Turkish students have 15 minute breaks after each 45 minutes of work. In Uganda, the school day is long, generally from 9 a.m. to 5 p.m. However, the children have a 30-minute play break in the morning and one hour for lunch and play. Then from 3:30 to 5:00, they have a choice of fun activities such as sports, clubs, art, and music.

Research Conducted During Recess

There are three major types of research conducted during recess: (1) comparisons of activity level during recess and at other times during the day, (2) analyses of gender differences on the playground, and (3) research on types of play and other behaviors occurring during recess on various types of playgrounds. Olga S. Jarrett provided references for many of these studies in her 2013

white paper on research supporting the need for recess. Several studies using pedometers, accelerometers, or heart rate monitors have found that children are more active during recess than during PE classes or after school. Experimental research has also found that when children are inactive in school, they are also less active after school, indicating that they do not compensate for their sedentary school behavior with increased activity when they have more free choice.

Research on gender has consistently found that boys and girls tend to self-segregate during recess. Boys are more active than girls and tend to play more games in larger groups, including ball games such as soccer, handball, and basketball if facilities are available. Girls' activities during recess are more verbal in nature including clapping games, jump rope rhymes, and pretend play. According to Pellegrini, gender segregation begins around the age of 3 and lasts until age 8 to 11. The types of play during recess depend on the length of recess as well as the playground equipment and moveable parts (such as hula hoops, balls, jump ropes, and moveable junk materials) available. Research reported by Joe Frost and colleagues suggests that traditional playground equipment promotes primarily exercise play, while loose parts, sand, nature areas, and open spaces promote more social interactions. Expensive playground equipment might be nice but is not necessary for a good recess experience. Anna Beresin and service-learning students from her university distributed balls, hoops, jump ropes, and chalk to high-poverty urban schools where playground equipment was not available. They found that even these inexpensive items promoted positive, active play during recess.

Benefits of Recess

Recess has many academic, physical, and social-emotional benefits for children. In a 2010 report, the Centers for Disease Control and Prevention summarized the eight recess studies that examined effects of recess on some aspect of academic performance, such as attention or

on-task behavior, and concluded that each of these studies showed at least one positive relationship between having recess and improved academic behavior (e.g., greater attention, less fidgetiness, and more on-task behavior) after recess. These findings can be interpreted through brain research that concludes the brain needs breaks to recycle chemicals and that exercise improves mental concentration. When recess improves classroom behavior, the teacher also benefits.

Recess is the time in the day when children are likely to be most active, and the active play that occurs during recess has physical benefits for coordination, increased stamina, and prevention of childhood obesity. As children run, climb, chase, and balance, they develop control of their bodies and challenge themselves physically. Research conducted by Pellegrini found that children are most active when they first arrive at the playground, showing their need to move after a period of being sedentary. Cynthia Ogden and colleagues report that childhood obesity has increased exponentially in recent years, especially among Mexican American and Black children. Although one cannot conclude causality, the ethnic groups with the highest incidence of childhood obesity are also the least likely to have recess, suggesting that they might benefit from more activity.

Recess provides an excellent opportunity for children to learn social skills such as sharing, planning, turn taking, and leading and following. In fact, recess may be the only time in the day when children are free to interact with their peers. Generally children teach one another these skills. They must learn to resolve conflicts to keep the game going, resulting in low levels of conflict on the playground. However, children who have been long deprived of recess may not know how to organize their own games, take turns, or play fair. Some schools have hired an organization called Playworks to provide play leaders to teach games and make sure all children are included during recess. Research has shown that Playworks schools report less bullying and smoother transitions to the classroom. There are physical and social benefits to

introducing new games, making sure that isolated children are included, and teaching conflict resolution skills on the playground. However, if recess intervention programs become too structured, children may not be encouraged to organize their own play and the result is no longer *recess* as defined by the ability to choose one's own activities.

As one of the few times in the school day when one can observe spontaneous peer interaction, teachers who supervise during recess have good opportunities to observe leadership, prosocial behavior, social isolation, and negative social behavior. Seeing how their students interact socially can help teachers and other playground supervisors intervene in situations involving aggression or social isolation.

Supporters of Recess

In 2013, the American Academy of Pediatrics published an important position statement on recess stating "recess is a crucial and necessary component of a child's development and, as such, it should not be withheld for punitive or academic reasons" (Murray & Ramstetter, 2013, p. 183). In addition to the pediatricians and play organizations such as the American Association for the Child's Right to Play (IPA/USA), the Alliance for Childhood, and the US Play Coalition, other supporters of recess include the National Association for Sport and Physical Education, the National Association of Early Childhood Specialists in State Departments of Education, and the National Association of Elementary School Principals.

Olga S. Jarrett

See also Child-Initiated Play; IPA/USA American Association for the Child's Right to Play; Noncurricular Play; Outdoor Play Spaces; Play, Definition of; Play, Nature of

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RECOMMENDED EARLY INTERVENTION PRACTICE GUIDELINES

Early intervention refers to comprehensive developmental and educational services for young, vulnerable children from birth to school entry and their families. It consists of anticipating, identifying, and responding to child and family concerns in order to maximize children's development and learning.

To provide high-quality early intervention services and supports, the Division for Early Childhood (DEC) of the Council for Exceptional Children periodically identifies, validates, and disseminates recommended practice guidelines for the field. DEC is an international membership organization whose members include teachers, therapists, family members, and others who care for, or work on behalf of, young children with special needs and their families. The organization promotes policies and advances evidence-based practices that support families and enhance the optimal development of young children.

The DEC Recommended Practices, published in 2014, have been shown to promote improved development and learning for young children who have or are at risk for developmental delays or disabilities, and to support their families. These practices are intended to guide professional early intervention providers (e.g., teachers, speech-language pathologists, physical therapists, occupational therapists, social workers) and families in the most effective ways to improve outcomes for children birth to 5 years of age. The practices have been shown to result in better outcomes for children and the personnel who serve them. Further, the practices embrace the concept of inclusion by promoting the participation of children and families in natural, inclusive environments in their communities. They also honor the cultural and linguistic diversity of children and families.

The recommended practices are based on the best available empirical research evidence as well as the wisdom and experience of the early intervention field. Because the research evidence is

always changing, DEC labeled the practices *recommended* to convey the sense that effective practitioners are themselves responsible for knowing the research, making informed decisions about use of practices, and assessing the impact of the practice on individual children and families.

These guidelines define practices as observable actions that are known to promote development and learning. Further, these practices are intended for those young children with or at risk for developmental disabilities and/or significant learning challenges. The practices are not specific to any one disability. They are considered essential or high leverage and may be supported by more specific actions or sets of actions for individual children and families. Indeed, individualization is one of the recommended practices. The practices build on but do not duplicate practice guidelines or standards for all young children. Developmentally appropriate practice, an approach to teaching grounded in theory and research on how young children develop and learn, is generally considered the foundational guidance for teaching all young children.

Development of the Practices

The 2014 version of the recommended practices represents the third iteration of guidance for the field. Previous versions appeared in 1993 and 2000. A commission made up of researchers, administrators, practitioners, and family members met to review the existing practices and definitions, and develop a strategy for updating them. Work groups consisting of additional researchers, administrators, practitioners, and family members with specific interest and expertise in a content area met to develop practices for each content area and to nominate published, peer-reviewed evidence to support the practices. The commission reviewed the practices and evidence and made suggested revisions. Following several revisions, experts in the early intervention field reviewed the practices.

Concurrently, a small group of researchers validated the nominated research evidence to determine if the research supported the practice and if the

research was sufficiently rigorous. It put in place a strategy to continually identify research to confirm (or disconfirm) the practices as the research becomes available.

Content Areas

The practices are arranged into eight topics: leadership, assessment, environment, family, instruction, interaction, teaming and collaboration, and transition. Brief descriptions of these topics are as follows:

1. Leadership practices include the practices that help individuals and teams implement the recommended practices within their program, school, agency, or organization.
2. Assessment is the process of gathering information to make decisions. It is conducted for the purposes of screening, determining eligibility, conducting individualized program planning, monitoring child progress, and measuring child outcomes.
3. Environmental practices refer to aspects of space, materials, equipment, routines, and activities that practitioners and family members can alter to support children's development and learning.
4. Family practices are those that support active participation of families in their child's development and learning, as well as achieving the family's own goals. Family practices build on family strengths and support choice and control.
5. Instructional practices are intentional actions that are designed to inform what to teach, when to teach, how to teach, how to evaluate the effect of those practices, and how to support others in using the practices.
6. Interactional practices are those practices that support back and forth exchanges between children and others and are intended to promote children's development and learning. Sensitive, responsive caregiving and teaching are fundamental practices in early intervention programs.
7. Teaming and collaboration refer to practices that enable professionals and family members to work together in ways that support children's development and learning.
8. Transition refers to the events, activities, and processes associated with key changes between environments or programs and the practices that support successful adjustment of the child and family while making these changes.

Historical Context

Congress passed the nation's major special education law, Pub. L. 94-142, now called the Individuals with Disabilities Education Act, in 1975. That law provided for education-related services for school-age children. In 1986, Congress approved Pub. L. 99-457, Education of the Handicapped Amendments, to ensure that infants, toddlers, and preschoolers with developmental delays or disabilities received early intervention, special education, and related services to meet their individual needs. While the federal laws assured access to services, the legislation could not assure their quality. There were no national standards of practice to guide professionals or to inform families about effective services.

DEC recognized that gap and organized a task force in the early 1990s to address the issue. Much research existed and had, in fact, served as the basis for passage of the law. But guidelines for early intervention practice were scattered among various scientific journals and reports. The task force created opportunities for researchers, teacher trainers, teachers, therapists, and family members to serve as members of focus groups and to identify recommended practices based on research and experience. It identified practices that could serve as guidance for the field. The practices were subjected to a field validation, and the resulting 415 practices were disseminated to the field in 1993.

About a decade later and with a renewed emphasis on empirical research evidence, DEC organized another group to review and update

the practices publication. This process involved an extensive review of peer-reviewed, data-based literature, another round of focus groups with researchers and stakeholders, and a synthesis of the literature based on focus group results. Again, the practices were subjected to a field validation. DEC recommended a set of 240 practices and disseminated it to the field in 2000.

Response to both of these earlier versions was positive but the sheer number of practices was overwhelming to many practitioners and families. Therefore, the 2014 version of the recommended practices sought to identify those practices that have the highest expected leverage and impact. The process described resulted in 66 recommended practices. Finally, in recognition that the research evidence grows and changes, the organization established a process to continually identify, validate, and disseminate new practice guidelines based on the research evidence.

Susan R. Sandall

See also Accommodations and Adaptations; Americans with Disabilities Act; Assistive Technology in Early Intervention; Atypical Development; Division for Early Childhood; Early Intervention

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REFLECTIVE PRACTICE

Reflective practice is a phrase that, despite being commonly used in a variety of contexts, remains somewhat nebulous in definition, and as a result draws criticism for being both overused and vague. At the most simplistic level, reflective practice might be considered intentional thought about the actions one takes in carrying out the duties of a given profession. However, few educators would agree that all thinking about practice is reflective, nor would there be support for the idea that any action can be justified simply because it was deliberate.

Though reflective practice appears in the literature across professions like nursing and social work, this entry discusses how it is defined within the teaching arena. As such, reflective practice can be defined as instructional practices and related actions that are carried out as a result of intentional questioning and critiquing of beliefs, practices, or knowledge with the intent to become more mindful of and responsive to the associated assumptions, implications, and outcomes associated with learning. In order to better understand this complex concept, it is important to be aware of the origins of reflective practice in education as well as both the processes associated with and the practical applications of such practices.

Historical Roots of Reflective Practice

Reflective practice can be traced to the early-20th-century work of John Dewey, an American philosopher and psychologist whose democratic teachings helped shape public education. He suggested that reflective thinking was actually a better way of thinking and that such thinking involved giving serious consideration to a subject with the goal of achieving a particular purpose beyond that of entertainment. He wrote that without reflective thought, being correct was nothing more than an accident, and that in contrast, reflection led to conclusions that were evidence based. Dewey's work indicates that those who think reflectively

share three characteristics: open-mindedness (the desire to see more than one side and recognize the possible error of our ways), responsibility (the willingness to move beyond whether something works and take into consideration the consequences), and wholeheartedness (the belief that new learning is always possible, accompanied by a commitment to finding possible solutions).

Despite the apparent logic of Dewey's work in this area, reflection was not a major consideration in most teacher education programs nor associated with teaching in general until Donald Schon's work gained traction in the mid-1980s. Schon, an influential thinker in the area of reflective practice and professor at the Massachusetts Institute of Technology (MIT), theorized that professional knowledge can only go so far in that the situations encountered in professional practice are complex, uncertain, and continually evolving. In essence, knowledge alone cannot sustain professionalism since it cannot keep up with the demands of practice. Thus, he argued, reflection must be established as a legitimate form of professional knowledge, further explaining that both reflection-in-action—that which takes place during teaching—and reflection-on-action—that which takes place before or after teaching—are critical to the process of being a reflective practitioner.

Since the time of Dewey and Schon, others have suggested other aspects of reflective practice including reflection-for-action—that which guides future action based on past thoughts and actions, as well as the idea that reflective practice does not have to be solitary—that it can occur as an outgrowth of conversation among professionals. Despite the fact that reflection has been a common part of what is considered good teaching practice for less than half a century, most have come to accept the notion that reflective practice refutes the idea that teachers are unable to generate their own knowledge and are doomed to a professional life in which they simply receive knowledge from other, more learned individuals. Reflection combats the degree to which instructional decisions are made without a conscious and conscientious decision

that they are the most appropriate decisions for the particular context.

Processes Associated With Reflective Practice

Reflection itself is typically triggered when a teacher encounters something confusing or out of the ordinary. In the field of teaching, these experiences do not just happen in response to a particular teaching event or assessment; moments of disequilibrium can be triggered by teaching materials and programs, mandates and directives handed down from above, education policy, or anything that happens within the context of the classroom, school community, or education at large. Such reflection is holistic, involving intuition, emotion, and passion, and is influenced by context and situation. In today's efficiency-oriented society, managing those characteristics can be challenging, but reflective practitioners place a high value on long-term development over immediate proficiency and recognize that efficiency can, in fact, be a direct threat to reflection.

Reflective practitioners do not see themselves as technicians who, when faced with problems, rely on fixed assumptions that often lead to limited outcomes. Rather, they tend to question problems from different perspectives looking for multiple potential solutions. They are able to question institutional and cultural contexts without arrogance and neither blindly reject nor accept what is commonly perceived as truth. They make educated guesses about the problems they encounter in the classroom on a daily basis, particularly when there is a gap between their expectations and the results, and they continue to frame and reframe dilemmas in light of knowledge and experience. Reflective practice involves a continuous and ongoing cycle of taking action, observing, analyzing, and planning—sometimes quickly in the moment, and sometimes in a more systematic approach that looks toward long-term change.

Professionals are typically considered experts in their field of study, and teachers are no different. However, being an expert can simply mean

that one has the knowledge required in order to practice in the field. Reflective practitioners set themselves apart from experts by acknowledging that while they have the relevant knowledge required, they are not the only ones who have relevant knowledge. They don't just use the resources provided to them; they consider how best to use the resources to achieve the instructional goals in the particular context in which they find themselves. They take responsibility for the instructional practices they choose to employ and are active participants in the work of the classroom. Reflective practitioners find ways to be autonomous when it comes to professional decision making.

Practical Applications of Reflective Practice

Because the reflection portion of reflective practice typically takes place inside the mind of the teacher, it is not always easy to identify whether practice is truly reflective or not. However, there are some actions that are more indicative of reflective practice than others. Using assessment to inform instruction, employing small group instruction, and offering differentiated assignments are all examples of teaching practices that typically fall under the purview of reflective practice, because in order to execute them in a meaningful way, reflection-on-action in the form of planning must occur.

Using Assessment to Inform Instruction

Teachers who simply move through a textbook or pacing guide from one lesson to the next without taking into consideration the needs of their students are not engaging in reflective practice. In contrast, teachers who use formative assessment, ranging from observational data to student performance on tests, in order to plan instruction are typically engaging in actions considered to be reflective in nature. In these kinds of classrooms, there is a cyclical and ongoing relationship between effective

assessment and effective instruction in which teachers notice patterns of student performance and aim to provide support where they see gaps.

Small Group Instruction

Whole group instruction remains prevalent in many classrooms, and while employing this approach to instruction does not preclude reflective practices, when teachers use it as the primary means of delivering instructional content they are less likely to be actively engaged in reflection. Classroom instruction in small groups should involve thoughtful construction of the groups. Possibly the grouping strategy that requires the most reflection is called flexible grouping, that which occurs when groups are chosen based on a specific purpose, meet until the specific purpose is accomplished, and are then disbanded in order to form new groups for new purposes. With rare exception, grouping students for instruction cannot be done well without planning. Rather, it should be a deliberate process based on purpose, assessment, and evidence, and membership—even in flexible groups—should be continually monitored and adjusted based on individual performance and growth. These actions are all indicative of reflective practice.

Differentiated Assignments

Offering meaningful options for a variety of ways in which students can demonstrate what they have learned also requires reflective practice. Teachers must ask themselves questions such as “Did any of my students have a hard time relating to the materials or the products they will need to use to express what they know?” or “What other products will demonstrate that they have mastered the material I have taught?” In some instances the answers to the questions might suggest that appropriate differentiation might be as simple as letting a student who struggles with fine motor skills record his or her oral answers to essay questions rather than attempting to write them out by hand. In others, the teacher might decide to provide multiple options for documenting understanding, and leave

the decision for selecting the assignment in the hands of the student. For example, as part of a study on cells, students may choose to create a model that includes accurate representation and labeling of the parts of the cell, to write a report that includes a description of the parts of the cell, or to videotape themselves giving a lecture on the parts of a cell. Each product, though different, would provide the teacher with similar insights regarding the students' understanding of cells. Differentiating assignments effectively, again, requires deliberate thought—intentionally planning with foresight—a hallmark of reflective practice.

In sum, reflective practice involves deliberate consideration of educators' own beliefs and practices, their students' performance, and the relationship between their students' performance and their own beliefs and practices. Educators who employ reflective practices use their knowledge, experience, and values to inform their classroom instruction and assessment; they conduct their own research as they go throughout their days, weeks, months, and years in the profession; and they analyze how their actions influence student learning and growth. Reflective practice requires a conscious and voluntary effort to interrupt the routines of teaching that can become habit, to continually self-assess in an attempt to improve, and to willingly alter beliefs and practices after careful analysis all in order to make learning more effective for students.

Amy D. Broemmel

See also Differentiation; Interpreting Assessment Data; Leadership in Early Childhood Education; Planning; Professionalism; Teacher Beliefs

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REFUGEE CHILDREN

In 2014, the United States admitted 73,000 refugees. According to the 2014 United Nations High Commissioner for Refugees (UNHCR) Global Trends, children below 18 years of age constituted 51% of the refugee population. By the end of 2014, there were almost 60 million refugees and internally displaced people worldwide, according to the UNHCR.

Refugee children arrive in the United States due to war, political uprisings, resettlement, violence, bombings, forced displacement, genocide, loss of parents and family members, loss of homes, and poverty. Unaccompanied minors come to the United States as well. Refugees come for a better life, a future, and survival.

Children bear the vestiges of the traumas and emotional stress of their experiences. They may present with health issues as well. These experiences contribute to risk factors that challenge children's adjustment to life in the United States. Lack of prior formal education, limited or interrupted formal education, lack of proficiency in English, or poorly educated parents may complicate children's adjustment to school. The severity of the traumas experienced by the children may lead to mental health issues. Resources to address these needs are essential to the education of refugee children.

There are immediate challenges in meeting the needs of children who have arrived from countries previously unrepresented in the U.S. refugee population. The need for translators for various language groups is acute. Refugee children who are culturally and linguistically diverse (CLD) require teaching strategies that are responsive to their needs. For the purposes of this entry, culturally and linguistically diverse refugee students are from countries experiencing violence, conflict, and human rights concerns. These students, whose primary language is not mainstream English as spoken and used in U.S. classroom settings, are from different ethnic and racial minority groups as well. English language learner (ELL) services are not sufficient for the needs of all refugee children.

The students are a heterogeneous population. Grade placement of children based on age estimates, rather than grade completion, coupled with a lack of prior formal education or discontinued education pose challenges for students and their teachers. The Division for Early Childhood (DEC) of the Council for Exceptional Children's 2010 position statement, *Responsiveness to All Children, Families, and Professionals: Integrating Cultural and Linguistic Diversity into Policy and Practice*, is an important resource for educators.

For students and their families, learning the nuances of a new culture and understanding social services and education and government systems are challenges. These issues become a concern for children, who often serve as their families' culture guides because children become proficient in English and American customs more quickly than their parents do.

Teachers in early childhood settings must determine if refugee children need special education services. In the case of children who are CLD, assessments in the diverse languages may not exist. Assessments in the languages of the students and specialists who speak the languages and are trained to administer the assessments are needed. The Culturally and Linguistically Appropriate Services (CLAS) website, maintained by the Early Childhood and Parenting Collaborative at the University of Illinois, is a helpful resource.

If a child has special education needs, the process for securing services requires family involvement. The processes are often complex and possibly unknown to the family. Support for the families in this situation is necessary.

There are different points of view on the use of assessments, particularly for early childhood students who are CLD. One approach is to "wait and see" because of a concern about overrepresentation of students who are CLD in special education. The second approach is to identify students who need special education services as early as possible in the child's development since time is a critical factor. An additional challenge is delay in evaluation due to limited staffing and high numbers of students who require evaluations.

In response to these issues, teachers report the use of alternative processes for evaluating student skill levels when formal assessments are not available. Teachers use assessment skills not dependent on language. Although the strategies are not standardized, they provide insight into the child's development. Strategies include observations of students at play and their interactions with other students and conversations with parents (with the assistance of translators) about their children's development and skills.

The strategies used are not new; however, they are targeted specifically to the refugee students. Teaching strategies include the increased use of visuals in conjunction with reading activities. New vocabulary is presented gradually and as simply as possible. Interactive, cooperative group activities and hands-on learning are emphasized. Friendship development and the social dimensions of school are important as well. For children, school is a learning environment and a social environment. An emphasis on culturally responsive practices is essential.

A useful resource in the determination of a child's development is the Protocol for the Routines-Based Interview (RBI) by Robin McWilliam. The structured interview allows families to contribute information about a child's development across developmental domains.

Teachers need professional development opportunities that address the growing diversity of schools and the needs of culturally and linguistically diverse students. The schools need translators and ELL teachers who can meet the needs of the refugee students. Schools are a point of contact with the new culture and schools. Teachers and students have a great impact on the lives of refugee children. Schools provide refugee children with opportunities for social interactions and friendships as well as acceptance.

Colleges of education are essential partners in meeting the needs of refugee children. Teacher preparation programs can respond to the demands of schools characterized by language diversity and high levels of poverty. Attention to issues of cultural diversity, refugee populations, and development of

cultural competence would enhance the experiences of students in preparation to become teachers, as well as teachers in practice. Recruitment of students to teacher preparation programs who are CLD or refugees would be a benefit to refugee students and schools.

Collaboration with refugee families is essential. However, refugee families may come from settings that do not provide formal education or encourage the involvement of the family in school matters. Refugees may be uncertain about the new culture. What is expected, what is allowed, and what is customary are questions refugees may have about their involvement in the school.

The culture is new to refugees. They are attempting to fit into the new system. They may not have had previous experiences talking to teachers or coming to the school. They may be uncertain and fearful in coming to the school. Parents and children may not have attended formal schooling. They may be uncomfortable or confused with the new language and information that is presented to them. The services provided in schools in other countries may be very different than the services available in the United States. The values and priorities of refugee families for their children may be very different than those of the educators. Early education has the responsibility of serving as a bridge for refugee families.

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See also Cultural and Linguistic Responsiveness; Cultural Competence; Immigrant Children; Immigrant Families and Early Childhood Education

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REGGIO EMILIA APPROACH

The Reggio Emilia approach is an educational philosophy founded within the municipal preprimary schools and infant-toddler centers system of education in Reggio Emilia, Italy (serving children from birth through age 6). Named by *Newsweek* in 1991 as the best preschools in the world, these schools and the Reggio Emilia approach have been the source of much discussion and research in the early childhood field worldwide. The schools are part of a public system recognizing the fundamental rights of the child and the welfare of children and families as well as valuing democracy and coparticipation of educators, children, teachers, and community. Influenced by constructivism (Jean Piaget), social constructivist (Lev Vygotsky and Jerome Bruner) and progressive pedagogies (John Dewey), and the context and culture of the city, this philosophy is founded on the image of the child as capable and competent while learning in relationships with others, the environment, and place.

The Reggio Emilia Approach begins with the child and then is framed by educators, parents, and other adults within the community. Other notable elements in the approach are the role of the teacher, *pedagogista* (pedagogical coordinator), atelier (art studio/workshop), *atelierista* (studio teacher), family participation, group learning, the environment as the “third teacher,” *progettazione* (flexible planning projecting and reflecting in the curriculum), documentation, listening,

and the hundred languages of children. The Reggio Emilia approach is not any one of these characteristics described; rather, it is the integration of the characteristics seamlessly put together, offering ways for teachers to respond to children based on deep listening and serious consideration of children's actions, questions, and theories.

History

Reggio Emilia, located in the Emilia-Romagna region of northern Italy, is a diverse city of 170,000 inhabitants and the origination of the Reggio Emilia approach. Following the end of World War II, the first school (in Villa Cello) was started by a collective of women within the community and the National Liberation Committee (CLN), funded by the sale of a war tank, trucks, and horses abandoned by the German army and built out of the bricks from the destroyed buildings. These schools, representative of innovation, social awareness, and political activism, attempted to create an alternative to the traditional Catholic school models current at the time. The Reggio schools also offered a way to engage in education as a democratic process. They were parent run until 1967 when the municipality took over the administration of the schools.

As part of the postwar era, social policies influenced women to work as activists and this contributed to the development of the Reggio Emilia approach. The Nido Law (passed in 1972) supported women to participate fully in the postwar society by offering funding and construction of *nidi* (nests) for children ages 3 months through 3 years. This legislation ensured the care and education of young children as a public issue and responsibility, illustrating children's rights to high-quality early childhood experiences. This law has continued to evolve with additions such as increased paid parental leave and expanded provisions for early childhood. Presently, the municipality of Reggio Emilia continues to allocate city tax dollars to early childhood education, evidence of the city's continued commitment to high-quality early childhood education.

Loris Malaguzzi, founder of the Reggio Emilia approach, provided leadership to the schools and the related social and political engagement from 1946 until his death in 1994. His involvement began when he rode his bicycle to the site of the first school in Villa Cello, witnessing the commitment and collaboration of community members as they constructed the building. Following his work as a public school teacher and study in psychology, he joined the parents in Villa Cello, assisting in running the school and working as a teacher. His commitment to schools in Reggio Emilia and the Reggio Emilia approach continued throughout his career as teacher, director, and author/designer/collaborator with his colleagues of *The Hundred Languages of Children* exhibit (panels depicting the educational story of the Reggio Emilia approach including philosophical and pedagogical practices illustrated in photographs, children's work, video, and narrations) that has traveled the world.

Child as Capable and Competent

Central to the Reggio Emilia approach is the view of the child as capable and competent from birth. The implications of this image of the child are that the child is viewed as a resource, collaborator, and protagonist as well as an individual with rights (instead of the traditional perspective of the child having needs). This viewpoint supports children's ability to construct knowledge through communication, experience, and relationships.

Role of the Teacher

The teacher in the Reggio Emilia approach is a listener, rather than a speaker, present without being interfering, and a partner and guide in learning. The role of the teacher is dependent on the image of the child as capable and competent and is reciprocal as teachers also view themselves as capable and competent. This relationship encourages both child and teacher as protagonists and participants in the often-used metaphor in the Reggio Emilia approach of playing catch with the child. The teacher is a researcher, aware and attentive to the child, recording the child's theories,

actions, dialogues, and questions that inform teacher response developed during teacher group discussions as well as professional development and sharing across the field of education.

Pedagogista

The pedagogista or pedagogical coordinator role within the Reggio Emilia approach works across multiple schools influencing and being influenced by the work in each school. Responsibilities of the pedagogista include ensuring the quality of the programs in the system of infant, toddler, and pre-school programs in Reggio Emilia; administrative tasks synchronizing pedagogical, political, and social aspects of the system (working under the director of the system); and collaborating with other pedagogistas in the system and educators at specifically assigned schools. While this position has been in existence in this approach since the 1970s, there is a recognition that the position is constantly evolving and being rethought to best support the practice of learning for children, teachers, and families within the system.

Atelier and Atelierista

Atelier (art studio/workshop) and atelierista (studio teacher) are unique to the Reggio Emilia approach. The atelier is a place for children to practice and utilize symbolic languages to represent thinking, ideas, and theories as well as a place for teachers to understand children beyond the classroom. The atelierista is part of the teaching team in the school, contributes to documentation, participates in planning, and collaborates with the teachers.

Family Participation

Families are partners with both teachers and children in the Reggio Emilia approach. Collaboration with families is part of administrative decision making as well as curriculum development. Families engage daily with interactions in the school context including everyday school moments, field trips, events, and celebrations. Reflective of

the overall commitment to education as a democratic process, families are active in social and political issues impacting the community. The Reggio Emilia approach offers a way for parents and families to see and understand their children in a different context.

Group Learning

While traditionally education is often focused on the individual, the Reggio Emilia approach is enacted in the context of group learning. This context supports creativity, critical thinking, and problem solving within small peer groups, challenging the isolation of the individual while offering possibilities and people as resources to the children. Group learning creates spaces for children to realize new perspectives on their theories and answers while welcoming new questions and uncertainties to further children's thinking. Group learning also challenges the teacher to see beyond the child as an individual and understand the power of relationships.

Environment as the "Third Teacher"

In the Reggio Emilia approach, the environment is considered another teacher in the setting and great thought is given to the aesthetic qualities, overall feeling, and tone of the space. The environment is adaptable and often rethought by the children and teachers in order to provoke more thinking, questions, and ideas. Materials, space, furniture, structures, and objects all function to offer choice and possibility. For example, natural light is always part of the physical space and is frequently the catalyst for questions, theories, discussions, and projects.

Progettazione

Progettazione is an Italian term in reference to flexible planning, projecting, and reflecting in the curriculum that is part of the Reggio Emilia approach. This type of planning considers more than the curriculum and involves all facets within everyday school life, including connections to the

community. Further, it is not limited to the teachers but also includes parents and families. Progettazione supports negotiated learning and the contributions of the protagonists in the process (children, educators, families) utilizing communication practices and the system of relationships within the context. When teachers come together to engage in progettazione, they discuss the possibilities of a project and how the project might evolve while also recognizing the process is ongoing and dependent on listening to the children. Materials, spaces, provocations, theories, and possible situations are considered and proposed to the children while the teachers remain open to what could happen as the children engage.

Documentation

Documentation in the Reggio Emilia approach is meant to explain, making learning visible, and functioning as an instrument for interpretation, recalling, reflection, and revisiting, representing a shared remembrance and artifact of the community. The process of documentation includes collecting materials (audio, video, written notes, children's creation) during individual or group experiences and then recalling, revisiting, and interpreting. Documentation functions as a living document projecting, reflecting, and projecting again to inform curriculum and learning. The documentation process inspires meaning making for children and teachers within the school context and is representational of the school context and culture. Documentation is part of progettazione and furthers teaching and learning, evidence of the reciprocity between children and teachers within the Reggio Emilia approach. As visible listening, documentation encourages revisiting experiences to inform response and expand thinking for both teacher and child about a process, theory, or question. Documentation functions as teacher professional development as it is tied to planning and offers teachers a way to consistently interrogate practice. Personal and group evaluation are commonplace for children engaged with documentation as it provides a visual journey to children's

thought processes encouraging reflection and rethinking within theories and understandings.

Listening

In the Reggio Emilia approach, listening is seen as a metaphor representational of documentation and observation. Engaging in listening demonstrates the value each person has for the others as well as the openness to other perspectives and viewpoints. Listening includes interpretation, construction, and rethinking while also opening space for more questions, differences, and relationships.

The Hundred Languages of Children

The Hundred Languages of Children refer to the multiple forms of representation utilized within the Reggio Emilia approach. Examples of the Hundred Languages include (but are not limited to) drawing, sculpture, words, dramatic play, shadow play, music, movement, and painting. The use of the Hundred Languages trusts children as communicators who are able to cultivate their intelligence through use of symbolic representation.

Jeanne Marie Iorio

See also Creativity; Curiosity; Documentation; Imagination; Joyful Learning; Reggio Emilia Approach, Role of the Arts in; Sociocultural Theory; Warm and Responsive Interactions

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REGGIO EMILIA APPROACH, ROLE OF THE ARTS IN

From the Reggio perspective, every child has at least “one hundred languages” available for expressing perspectives of the world. Some of those languages, such as visual art, music, dance, drama, and photography, are considered the “poetic” languages, cornerstones of this approach. Loris Malaguzzi, the founder of the Reggio Emilia preschool educational philosophy, believed an intervention for the dated model of schools was needed. One of his novel ideas was placing professional artists in every school, as a means for ensuring that all children receive quality art instruction. In fact, all preschools in Reggio Emilia now have a dedicated artist and artistic program in their school. This entry will examine practices in the atelier (arts studio), the role of the *atelierista* (artist-teacher), and the philosophical underpinnings of the role of the arts in the Reggio schools.

The Philosophy of the Reggio Emilia Approach

The educational philosophies of Johann Pestalozzi, Friedrich Froebel, and Maria Montessori were particularly important influences on the Reggio Emilia approach to the arts. Pestalozzi believed

that children were special in their own right and not just “little adults.” Pestalozzi proposed that children learn best through sensory exploration and in natural environments. Froebel, known for the creation of the kindergarten, thought that through the manipulation of materials and physical activity and games, children could form spiritual and abstract concepts such as unity in the universe and the combination of opposites. Montessori, like Froebel, also created schools for young children that centered on manipulating objects and playing games, but she first carefully studied children’s natural play behaviors to decide how materials and activities could best be applied. Reggio schools employ social constructivist art projects, which provide children opportunities to engage in sensory exploration within natural environments, which promote playful, creative learning.

John Dewey, Lev Vygotsky, and Gregory Bateson were also important influences on the use of artistic projects in Reggio Emilia schools. For Dewey, children’s play was highly desirable because it expressed a child’s current experience and understanding of the world. Vygotsky claimed that symbolic and dramatic play was essential for abstract thinking, as well as cognitive and emotional development, and that social engagement and collaboration with others were necessary in order to transform children’s thinking. Bateson’s theory of meta-communication stressed that multiple layers of learning provide the best type of education. Malaguzzi translated this belief to mean that non-verbal means of communication, such as visual art, would be especially valuable educational media in the schools. The famous adage “the map is not the territory” illustrates Malaguzzi’s assumption that traditional education is often flat in comparison with an artistic curriculum that can embrace subjectivity, curiosity, and creativity. Pestalozzi, Froebel, Dewey, Montessori, Vygotsky, and Bateson can all be seen as influences on the use of art in the Reggio Emilia approach. A common thread connecting these ideas is that artistic projects involve complex, multimodality processes that can potentially be fun, engaging, and meaningful for children.

The Atelier

The Italian word *atelier* means “artist studio.” Malaguzzi incorporated the atelier into the pre-school design starting in the early 1960s. In the 1970s, he also added ateliers to the infant–toddler centers and mini-ateliers into individual classrooms. Malaguzzi proposed that the poetic languages contain an “alphabet”; and, if practiced over an extended period of time, this alphabet will evolve into a fluent language.

Vea Vecchi, one of the first atelieristas to work closely with Malaguzzi, has written several books recounting her experiences of working with children in the Reggio Emilia schools. Vecchi emphasizes that the atelier is a place to *sensibly* introduce artistic techniques and artistic thinking to children. The atelier should be a place where children have extensive experiences in creating art works from both observation and imagination. Children in the Reggio Emilia schools display high levels of artistic skill because they have been provided expert instruction and guidance in using tools, materials, and techniques for art. However, the quality of the art produced is not actually what is important. Rather, children’s art works are considered “documents” used for further research into children’s learning potential. This documentation is a key aspect of the Reggio Emilia approach, and children’s art provides a visual means for examining and guiding children’s perspectives and thought processes.

The Atelierista

The atelierista is a professional artist who is not trained as a formal schoolteacher. The role of the atelierista is to prepare engaging and challenging art projects. As the children work with the artistic materials, the atelierista observes their actions and explores theories regarding their thinking processes. These theories guide new ideas or, in Reggio Emilia school parlance, are referred to as “provocations,” which are then used to stimulate and guide children to advance their artistic thinking. Indeed, what is distinctive and unique regarding the Reggio Emilia approach is that the

atelierista thinks like an artist and is therefore able to interpret children’s creative processes from an artistic perspective.

The atelierista, however, is not the sole expert on deciding new directions for atelier provocations—teachers, parents, adults, and children are all equally considered competent at this task because they each have their own unique perspective, and it is from this mixing of perspectives that new atelier ideas arise. In contrast to traditional education, learning outcomes in the atelier are emergent rather than prescribed in advance. By closely observing and documenting children’s work as it occurs over time, both atelieristas and teachers are able to dynamically respond to the unique pathways of each child’s artistic and intellectual growth.

Interweaving of Languages and Ateliers

The atelier is synonymous with the Reggio Emilia school. Indeed, the Reggio Emilia school is a collection of diverse yet interrelated ateliers. Because all the languages of learning have aesthetic qualities, ateliers have been created in multiple subject areas, from music to biology to writing and mathematics. In Reggio Emilia schools, learning processes themselves are considered fundamentally aesthetic. The atelier provides the aesthetic vehicle for learning, allowing children to develop empathy with their environment and foster care and quality in creating, while nurturing the ability to work collaboratively with others in the pursuit of collective meaning.

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See also Art; Arts Integration; Constructivist Curriculum; Emergent Curriculum; Reggio Emilia Approach

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REGULATORY AGENCIES

Regulatory agencies in early care and education serve an important function in the protection of children in out-of-home early care and education settings. Moreover, they serve as important partners in efforts to enhance overall program quality to ultimately improve child outcomes.

Unlike K–12 education where schools typically operate under the governance of local school boards or similar structures, services for children from birth to age 5 are offered in an array of settings including child care centers, schools, and family child care homes in communities and states throughout the United States. Services are provided under the auspices of for-profit businesses, nonprofit organizations, faith-based organizations, and education agencies. Therefore, the complexity of delivery models has necessitated the creation of policies to ensure the health, safety, and well-being of children in out-of-home care regardless of the setting. Regulatory agencies serve to carry out what is typically referred to as *licensing policies* or *standards* enacted for this purpose.

The Role of Regulatory Agencies

Standards for high-quality care have been defined in *Caring for Our Children: National Health and Safety Performance Standards: Guidelines for Early Care and Education Programs* (3rd ed., 2011) by the American Academy of Pediatrics. However, there are no unifying policies requiring adherence to these standards for all early childhood education (ECE) programs throughout the

country. Some federal funding streams impose requirements that may exceed a state's policies as a mechanism to ensure conformity with appropriate practices but applicability is limited for targeted funded populations. Each state defines a threshold or baseline of protection for children with some states requiring more stringent standards and enforcement. These policy standards reflect the state or local community's philosophy and the prevailing political environment. Local ordinances may be enacted that exceed state standards. Therefore, the role of regulatory agencies differs depending on the state and local ordinances created to oversee and regulate ECE settings.

The limits of authority by regulatory agencies are dictated by the state and local standards. These standards typically address areas such as facility health and safety, staff education and credentials, background screening, staff preservice and in-service training, adult to child ratios, group size, health requirements and medical care, nutrition, behavior guidance and discipline, activities and materials/equipment, child assessment, transportation, and specific regulations for age groups (infants and toddlers, preschool and school-age children) and care for children with disabilities or other special needs. The extent to which these areas are addressed in licensing standards varies considerably as do enforcement practices.

For example, all 50 states require that child care centers are inspected prior to licensure according to the National Association for Regulatory Administration (NARA) in its Child Care Licensing Programs and Policies Survey in 2011. However, some states reported that inspections are announced in advance and some reported that inspections are unannounced, which means that the owner/operator may or may not know when an inspection will occur. The frequency of onsite inspections to monitor for compliance with program standards also differs by state ranging from more than three times per year for four states to as few as once every 2 years for five states. National experts recommend no fewer than two inspections per facility per year to include child care centers, family child care homes, or group homes.

There are also ECE settings that are exempt from regulation in some states. For example, some states exempt faith-based programs from licensing requirements based on separation of church and state. Additionally, recreational programs such as Boys and Girls Clubs, among other programs serving younger children, are exempt from licensing in some states according to NARA. The definition for these exemptions is typically articulated in state statutes and may require other evidence of child safety and protection in lieu of licensure.

Federal Policy

While there are no national policies governing all early care and education programs, the largest source of funding for early care and education is the Child Care and Development Block Grant (CCDBG), which was reauthorized by Congress in 2014 (Pub. L. 113-186). It is important to note that this policy lever aims to improve the quality of early care and education programs requiring basic health and safety protections for children served by taxpayer dollars, regardless of the setting. Children eligible for services under CCDBG are typically those from low-income households whose parents or caretakers meet defined eligibility criteria.

The reauthorization of CCDBG addressed several areas. Some of those areas include duties that are delegated to regulatory agencies including the following:

- Comprehensive background checks will be required for providers who are licensed, regulated, or registered under state law, which includes a fingerprint check against state and federal records, child abuse registry, and sex offender registry.
- States will be required to explain how the use of federal funds in unlicensed care will not endanger the health, safety, or development of children.
- Child care programs will be required to be inspected before a license is issued and conduct

at least one unannounced annual inspection for licensing compliance, health, safety, and fire standards. Unlicensed programs would also be subject to an unannounced inspection for health, safety, and fire standards.

- States will be required to ensure that providers have training in several areas addressing the safety, health, and well-being of children.

Among other provisions, the legislation also addresses issues of child care quality by increasing the percentage that states must spend to improve quality from 4% to 9% of their allocation over 5 years, with an additional 3% for quality activities for infant and toddler care. Other efforts to improve quality require states to have policies related to adult-child ratios, group size, and staff qualifications. CCDBG also requires states to engage in one of several specific activities to improve quality utilizing the quality set-aside funding. While CCDBG is specifically targeted to serve eligible children, other provisions in the legislation impact the early care and education system in states to ultimately improve the quality of services available for all children.

Quality Improvement

Regulatory agencies also play an important role in quality improvement systems (QISs) in states as compliance with child care licensing standards often serves as an entry point into a QIS. Such systems aim to improve the quality of early care and education through established standards with incentives for compliance at increasingly higher levels. QIS standards typically address staff qualifications and professional development, curriculum and learning activities, child assessment, and children's health and family engagement, according to an issue brief from the Department of Health and Human Services, Office of Child Care in November 2011.

Phyllis Kalifeh

See also Child Care Policy and Practice; Quality; Quality Rating and Improvement Systems

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RELATIONAL POWER

Children's development and all they achieve in the early years of life occur in the context of relationships. Relationships are essential as children form concepts about the world and their place in it. Children form relationships with a variety of people such as parents, other family members, caregivers, peers, and a range of others with whom they interact on a less frequent basis. This entry considers the relationship of children with their primary caregivers, with teachers, and with peers. These relationships are powerful and their quality, both positive and negative, greatly influences how children function as they go through life.

Attachment

The earliest relationship almost all children form is with a parent or parent substitute. A large body of research has examined the formation of attachment, the emotional connection between parent and child, which, when secure in quality, should lead to feelings of security and trust in the child. Young children who experience consistent and loving care trust that they will be protected as they explore their environment. Such exploration, in turn, leads to increasing confidence in children that they are capable and competent. Attachment research has utilized the theory of John Bowlby, who believed that the early bond between mother and child has a profound influence on later development. More recent research has also underscored the importance of other primary caregivers such as fathers and consistent teachers, and that attachment is not simply determined by the primary caregiver's behavior but is bidirectional; the child is as much a partner in the establishment of the early parent-child relationship as is the adult.

Almost all children become attached to their caregiver, but the quality of that bond determines the type of attachment that is formed. Researchers have identified different attachment styles, including secure attachment, ambivalent-insecure attachment, avoidant-insecure attachment, and disorganized attachment. Parents of securely attached young children are nurturing, dependable, and responsive to their youngsters' needs and, as a result, such children are thought to form a mental template for relationships that is positive. They face the world with confidence and self-assurance. As toddlers and preschoolers, securely attached children tend to be socially competent and popular with their peers. Furthermore, because they have a positive bond with their primary caregivers, they are much more likely to engage in the behaviors their caregivers encourage.

Some children, on the other hand, experience a range of challenges, including primary caregivers who are themselves insecure, depressed, rejecting, neglectful, or abusive. Such circumstances have far-reaching impact. Children's earliest interactions

are thought to set the stage for later relationships. When these early experiences are not positive, if these children do not have secure relationships with other important caregivers, and if they do not experience an intervention to improve the quality of relationships, later interactions with significant others are likely to be negative as well. For instance, children who have an ambivalent attachment to their mother tend to respond aggressively in later interactions; children with avoidant attachment tend to be withdrawn; and children with disorganized attachment often show both aggression and withdrawal.

Researchers have found a strong relationship between secure attachment and positive outcomes and insecure attachment and negative outcomes in virtually all aspects of children's subsequent development. Research on resilience suggests, however, that even when children experience less than ideal parenting, they can learn positive interactions through other significant adults in their lives who intervene at opportune moments. Furthermore, children can and do form multiple attachments, such that if one of these relationships is insecure in quality, it can be offset by relationships with others that are secure in nature.

Relationships With Teachers

In recent decades, an increasing number of young children have spent much of their day in child care settings; thus, many children also interact on a daily basis with child care teachers. Children can form deep relationships with consistent, responsive teachers; these relationships, in turn, have long-lasting effects. Various studies have examined this effect of the early childhood teacher on children through eighth grade. Children who have a warm, close relationship with their early childhood teachers adjust better to elementary school, performing better both academically and socially, than children who did not have a positive relationship with an early childhood teacher. In addition, as mentioned briefly earlier, a positive attachment with a teacher can help to ameliorate the negative effects of insecure attachment with

the primary caregiver. Such responsive teachers tend to be found in high-quality child care programs, which foster sensitive interactions and provide for children the kind of security that encourages them to explore and experiment within their school environment.

On the other hand, children whose relationship with their teachers is conflict ridden or characterized by dependency tend not to be well prepared for subsequent school experiences. Researchers have found that such children were less academically ready and had a much higher rate of adjustment problems in elementary school than children who had close and positive relationships with their preschool teachers. Another relevant research finding is that toddlers, who are particularly sensitive to change, do not fare well when there is a change in primary caregiver. Children who were between 18 and 24 months of age when placed in the care of a new teacher tended to be more aggressive at age 4. This is particularly disturbing, given the high rate of teacher turnover in child care and the decision in some infant-toddler programs to move children into a new classroom with a new teacher when they reach certain age milestones. Continuity of caregivers is important for children of all ages, but very young children are especially vulnerable to the loss of a teacher with whom they have developed a relationship. Children who experience a warm, affectionate, consistent relationship with preschool teachers are significantly more likely to be successful in elementary school than their peers whose relationship with teachers is characterized as conflict ridden or dependent.

The importance of a positive relationship with teachers is emphasized in a widely used and well-researched quality assessment tool, the Classroom Assessment Scoring System (CLASS). In this instrument, quality is measured along three domains: (1) emotional support, (2) classroom organization, and (3) instructional support. Emotional support is evaluated through observation of classroom climate, including whether teachers and children have positive relations with each other, enjoy being together, and are respectful of each other. It is also examined in relation to the

teachers' sensitivity to the children, including their consistent responsiveness to the children, their ability to provide appropriate support, and their creation of a safe environment in which children are able to explore and learn. Finally, emotional support is measured by whether teachers take the children's perspectives and points of view into consideration, encouraging them to share their ideas and supporting their autonomy.

Nationally representative research on the impact of emotional support in the classroom shows that high-quality teacher-child relationships can be a moderating factor contributing to children's overall academic and social achievement, particularly for children who are at risk of school failure. One study found that high levels of emotional support in pre-K classrooms predicted academic, social, and language development through the kindergarten year. The fact that the CLASS gives equal emphasis to relationships as it does to academic factors underscores the importance of relationships in children's lives.

Relationships With Peers

One of the most significant tasks of childhood is to establish relationships with other children, as noted in the highly respected report of the National Research Council, *From Neurons to Neighborhoods*, edited by Jack Shonkoff and Deborah Phillips. Peers take on an increasingly important role in each other's development as children enter the preschool years. Many children are in group-care settings from a very early age and thus have numerous opportunities to interact with their age-mates. A small but growing body of research documents infants' and toddlers' keen awareness of other children and how they begin to show preference for certain others. By preschool age, many children develop a special relationship with one or two children, using terms like *best friend* to describe their budding affinity. Early friendships are both meaningful and enduring. Considerable research has examined peer interactions and described some of the long-term effects on children's development.

Preschool-age children who are competent in their interactions with peers demonstrate qualities such as sharing, engaging in pretend play, turn taking, and negotiation. This social competence, in turn, correlates favorably with positive developmental outcomes. Children who have had positive experiences with peers in preschool tend to continue to be socially competent in elementary school and, according to one study, continue on that trajectory into adulthood. There is also growing evidence that friendships are linked to school adjustment. For example, when a child starts elementary school with a preexisting friendship, that child adjusts better to the new school. In addition, children who make new friends in their new school tend to feel more positively about school and do better academically than children with fewer friends.

Some children have few or no friendships and appear to be rejected by their peers. Rejected children may be overly aggressive or they may be shy and withdrawn. When rejection occurs over a period of time rather than as a transient experience, children tend to have a difficult time adjusting to school. Furthermore, such children often do poorly both socially and academically in school and may grow up to be adults with mental health problems.

Adults play an important role in fostering positive peer relations. Generally, when children are securely attached to their primary caregiver(s), they tend to have harmonious peer relations. Similarly, teachers can encourage children's relationships with each other. Because children do not naturally know how to interact appropriately in a group, the astute preschool teacher will facilitate positive interactions through coaching, modeling, interpreting, and explaining the emotions of others and encouraging children with regard to positive methods of engagement. When children feel their classroom is harmonious and safe, they are much more likely to engage in positive interactions with each other than in classrooms where teachers tend to be cold and threatening. Researchers have found children's interactions with their peers to be linked to their relationship with the teacher; if teachers are nurturing and encouraging, children tend to engage in positive peer interactions. Early childhood teachers

also can provide materials and activities that foster social participation and support children's emerging social competence in their relationships with peers.

Conclusion

Early childhood is the time in which the quality of relationships most profoundly impacts children's formation of attitudes about others, themselves, and the world they live in. Whether with primary caregivers, teachers, or peers, positive relationships have the potential to bolster self-esteem and encourage engagement in the environment, while negative relationships may dampen social and academic potential. Relationships are, indeed, powerful.

*Eva L. Essa, Melissa Burnham,
and Jencie Davies*

See also Attachment and Stress; Emotional Development; Guiding Behavior; Peers and Play; Social-Emotional Competence

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RELATIONSHIP BUILDING

Many variables influence how children develop relationships and how well their interaction styles work for harmony in relationships. Infants younger than 1 year were observed to choose animal puppets they have observed *helping* rather than *hindering* another puppet. Toddlers show clear abilities to help others.

Some factors are fundamental for the mature development of empathy, sharing, cooperation, and helpfulness. Early primate research revealed that maternal love is crucial for later peer relationships. During the 1950s, Harry Harlow and Robert Zimmerman reared baby monkeys with one artificial mom covered in soft terrycloth and one of wire with a nipples bottle providing milk. Monkeys clung constantly to soft cloth moms *unless* they needed a swig of milk. These isolated monkeys bit themselves, rocked compulsively, and could not play well when brought together with peers.

Secure Attachments: Roots for Positive Relationship Building

Psychiatrist Margaret Mahler observed that baby normally experiences an initial blissful feeling of

oneness with mother, at about 1 year, then a “love affair with the world” when baby feels that the world *holds* the baby as mother did at first. The choreography of the transition to toddlerhood includes *relationship contradictions*: struggles to reconcile oneness and separateness; holding on/letting go; flinging away/clinging; darting away/shadowing; anger/sadness; no saying and temper tantrums (Kaplan, 1976). Caregivers weather such contradictions with patience and kindness, or child–adult relationships can become frayed.

Mahler noted that children with disturbed relationships were disrupted in the process of individuation/separation and failed to recognize mother as a beacon of orientation. They did not develop a sense of “constancy”—an inner model of the *nuances* of interpersonal behaviors present by 3 years. Louise Kaplan (1976) posits that children who develop a sense of constancy understand that persons are neither “bad” nor “good,” and they learn to accept that peers and parents are neither saints nor demons, to maintain the wholeness of self and other even during times of less satisfaction, and to “unite love and aggression” (p. 191).

Donald Winnicott proposed that an essential milestone for early development is *concern for others* when children respond to others’ unpleasant or painful experiences with empathic responses. In his psychoanalytic practice, mother–child relationship difficulties from the earliest times were at the heart of troubles of every child with relationship difficulties.

Working with delinquent youngsters, psychoanalyst John Bowlby noted in 1988 that without early mother support and empathy, children grow up expressing aggression, delinquency, and promiscuity. “A child’s anger is frequently an expression of frustrated desire for love and care, and anxiety is often a child’s uncertainty about the parents’ continued availability” (p. 58).

After working with Bowlby in England, Mary Ainsworth (initially in Uganda and later in the United States) studied positive attachment behaviors of babies: smiling when mom comes into the room, reaching out and/or calling out to be picked up, snuggling and molding/sinking onto mom’s

body, able to play well with toys after mother’s return, able to give stranger a dazzling smile *if* safely snuggled in mom’s arms. Ainsworth and colleagues carefully observed in-home mother–infant interactions and then invited the dyads into the laboratory when babies were 1 year old, for a 20-minute strange situation test, involving two brief separations from mom and two interactions with a stranger. *Reunion* behaviors when mom reenters the room were coded as secure (66%), ambivalent/insecure (12%), and avoidant/insecure (12%). Later, a disorganized/insecure code was further added for when babies show inconsistent contradictory behaviors.

Avoidant infants look “cool,” but their heart rate and stress hormone levels suggest that avoidant children are stressed by separation from their special caregiver, despite how well they seemingly adjust (Fraley, 2012). *Disorganized* children have caregivers who have been emotionally detached, unpredictable, frightening/frightened, or harsh. Richard Fearon and colleagues’ (2010) meta-analyses of 69 research studies confirmed that insecure/disorganized attachment is associated with later elevated risk for more reactive and proactive aggressive behaviors with peers. The following is an example of parenting behavior observed by Alice Sterling Honig that appeared likely to eventuate in later child attachment difficulties:

Starting outward, mom sat with her screaming baby on her lap with baby facing away from mom. When I gently suggested that she put baby to shoulder with closer touching, mom did so; for a minute, baby quieted. As baby began again to wail, mom resettled baby on lap facing outward and sat with a far away look in her eyes, silently, with no soothing gestures nor attempts to interact with baby.

Early attachments serve as an *unconscious template* for later social relationships. A secure IWM (internal working model) develops outside of consciousness with the main purpose of assuring adaptive regulation of negative arousal when a child is feeling insecure or distressed. Having

learned that caregivers are sensitive, flexible, trustworthy, and available, securely attached infants develop more self-efficacy, self-regulation, and self-confidence. Their friendly overtures to peers are more likely to be accepted, and they resolve peer conflicts peaceably.

Contrast this with preschoolers initially identified in infancy as “avoidant/insecure,” who behaved as *bullies* when paired in a playroom with peers who had been insecure/hesitant babies. The bullied preschoolers sometimes even invited more bullying (Sroufe & Fleeson, 1986). Teachers, ignorant of infant classifications, rated the secure preschoolers comparatively as less aggressive, showing more empathy for others, more able to sustain positive peer interactions, and more popular with classmates. L. Alan Sroufe, Elizabeth Carlson, and Shmuel Shulman later reported that at a summer camp, counselors rated those initially secure children at age 11 as more socially competent, with more close friendships than formerly anxiously attached peers.

Attachment insecurity predicts later relationship troubles. Infants with insecure attachment at 12 months were significantly more likely to exhibit consistent *increases* in difficult conduct and aggression. Securely attached babies, *even when in high-risk environments* with maternal depression, high financial stress, and delinquency of parents, were *less likely* to develop a trajectory of high behavior problems into preschool (Keller, Spieker, & Gilchrist, 2005).

Controlling for maternal education, child aggression was higher when moms had lower education. In a study published in 2014, Maeve Cyr, Dave Pasalich, Robert McMahon, and Susan Spieker revealed the power of secure early attachment to *protect* against preschooler aggression in relationships through analyses of strange situation attachment data for 82 mother–infant dyads at 12 months and observations when children were 4.5 years old. During the “child’s game,” moms followed the child’s lead in play. In the “parent’s game,” moms chose the course of play. In the “cleanup phase,” moms directed children to put away toys and clean up the room. Mothers’ *criticism* of their

preschoolers later correlated positively with child relationship aggression in Grade 1 for children with initial insecure attachment, but *not* for children with initial secure infant attachment. Cyr conceptualized attachment as a lens by which children perceive negative aspects of parenting, and that lens protects securely attached children so they are less vulnerable to harsh parenting practices.

Insecure IWM can lead to dysregulation, rigidity, or negative appraisals of situations—an inability to modulate the control of feelings, emotions, and actions appropriate to the social situation. Ego resiliency arises from children’s experience of supportive parents as well as positive valuing of secure attachment. College-age adults secure in romantic relationships were more likely to recall their childhood relationships with parents as having been loving and affectionate.

Temperament Troubles

Three major temperament styles have been observed in children: easygoing, feisty/intense/irritable, and shy/slow to warm up. Cautious children tend to need more adult coaching in group entry skills to engage with peers and more support for *sustaining* play sessions with peers. Children with intense temperaments may have more difficulties in social relationships.

Effects of Child Gender and Attractiveness

Gender impacts relationship building. In preschool, children prefer playing with a child of the same gender. Boys may declare “Girls can’t be firemen!” and refuse to include girls in their play scenarios. Attractive children are more often chosen as playmates. Aggressive children are disliked and rejected by preschool peers.

Parenting Style

Longitudinal studies of Diana Baumrind’s three major patterns of parenting reveal that parenting styles strongly affect relationships. Adolescent sons

of rigid, power-assertive, harsh (authoritarian) parents were unfriendly, easily annoyed, and deceitful and alternated between aggressive behaviors and sulky withdrawal. Youth whose parents had been quite permissive proved to be domineering, quick to anger, and aggressive in relationships. Children of involved, warm, responsive, and firm parents (authoritative) showed purposeful cooperative behaviors with adults and maintained friendly relations with peers. A fourth type, uninvolved parenting, has been associated with later impulsiveness and aggression as well as moodiness, low self-esteem, delinquency, and relationships with troubled peers.

Effects of Family Situations and Neighborhoods

Other early risks predict later violence. Extreme poverty, parent in prison, and young teen parenting contribute to worrisome child behaviors, including heightened aggression. Living in dangerous neighborhoods, parents may confine children indoors to keep them safe and protect them from gang violence.

High parent conflict and custody disputes lead children to struggle with relationships with parents and peers. Young women from divorced families are more likely to have difficulty with heterosexual relationships.

Longitudinal British studies of children adopted after early infancy from grossly depriving Romanian orphanages revealed long-term negative effects, including indiscriminate friendliness with strangers and social difficulties (Rutter et al., 2010). Yet, nurturing adoptive parents have indeed reared adopted children with positive relationship outcomes (van Ijzendoorn & Juffer, 2006).

Effects of Stress, Abuse, or Trauma

Child trauma can arise from multiple sources, including chronic illness, parental drug abuse, war-time terrors, sexual molestation, watching a loved parent being assaulted, and schoolyard or cyber bullying (Honig & Zdunowski-Sjoblom, 2014). Stress affects children's neuroendocrine-immune

network. Abusive parenting changes brain structure. Cortisol (a stress hormone) disrupts the hippocampus, the brain center for memory, and increases the size and activity of the amygdala, the brain's main area for threat perception and fear responses, so children react more to situations they perceive as threats. For example, a troubled preschooler whirled around with angry face and clenched fists, ready to attack a peer who had brushed past him lightly while happily running toward an available red tricycle (Honig, 2010).

Sibling Relationships

As young as 6 months old, children have been noted to respond with jealousy and even physical attacks on another baby their mom is cuddling. Feelings of having been displaced and reaction to loss of exclusive parent attentiveness can result in dysfunctional relationships. Parent preference for one sibling as "smarter" or "prettier" can lead to lifelong family estrangements.

Strategies to Promote Positive Relationships

Harlow increased relationship abilities of his isolated, traumatized monkeys by providing extensive opportunities for the monkeys to play with younger peers. Poorly adjusted human children, rejected by peers, also show more positive relationships when paired with younger children.

Temperament is not destiny. In Holland, home visitors taught low-education mothers of highly irritable babies how to anticipate difficulties and soothe their infants. By 1 year, those babies were mostly securely attached (68%) compared with lower rates (28%) for babies whose mothers were randomly assigned as controls (van den Boom, 1997). Teachers who reinforce *specific* prosocial interactions enhance relationship harmony (Honig, 2004). When a teacher described aloud and then wrote down observed helpful interactions on paper slips and stored these in a "kindness jar," the children themselves started noticing more and reminding the teacher to include prosocial actions (Honig,

2002). Vivian Gussin Paley (2001) promoted children's willingness and ability to include rather than exclude peers by inviting a child daily to dictate a story and choose peers to act out scenario roles. In another study, second graders daily shared with teacher positive peer interactions they saw in classroom, lunchroom, or hallways. The researcher tallied twice as many positive interactions after one month, but no change in a randomly assigned control classroom (Honig & Pollack, 1990).

Enhancing young children's *sense of control* promotes more positive interactions (Mittal & Giskevicius, 2014). William Damon (1988) suggests inviting volunteers to talk in classrooms about their efforts (e.g., coaching children with disabilities to swim together) to promote prosocial relationships. Teaching children *distraction and distancing* techniques helps them resist a current temptation (one marshmallow) and wait, in order to get two treats. Such effective self-monitoring techniques resulted decades later in better life outcomes including increased social relationships (Mischel, 2014). Myrna Shure (1996) advocates techniques that galvanize children to choose and use *problem solving skills* (such as asking oneself "What will happen IF") to resolve hurtful or angry relationships. J. Ronald Lally and colleagues found that high-quality child care plus home visitations to enhance family relationships, for single teen parents, led to reduced juvenile delinquency and recidivism rates 10 years after early intervention for those who had attended the program in comparison with control youth.

Psychiatrist Bruce Perry (1993) trains therapists in healing techniques to reduce traumatized children's "freeze, flight, or fight" responses. Providing a climate of safety and trust, therapists help children "experience simultaneous contradictory feelings (e.g., anger and love or fear and rage) "to mitigate defensive avoidance and enhance positive social relationships (Briere, 1992, p. 88).

Conclusion

Building positive encounters in families, classrooms, and social groups requires promoting early

secure attachments. Additional efforts include teaching therapeutic tools to promote children's cognitive executive functions and providing practice and encouragement for children to use problem solving and emotional "cooling" skills to de-escalate and resolve interpersonal conflicts and thus enhance prosocial relationships.

Alice Sterling Honig

See also Aggression; Attachment and Stress; Family Health; Fathers; Mindfulness; Mothers; Parenting Support and Education; Peers and Play

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RELIABILITY AND VALIDITY IN CHILD ASSESSMENT

According to the National Association for the Education of Young Children (NAEYC), the purpose of child assessment is to evaluate young children's strengths, progress, and needs. NAEYC further notes that assessments fulfill multiple purposes such as helping to make informed decisions about teaching and learning, identifying developmental red flags or other significant concerns that may require follow-up diagnosis and intervention, and improving educational programming or interventions. The assessment of young children is widespread in today's early childhood context. For example, early childhood educators are often responsible for choosing, administering, interpreting, and using the results of child assessments. Many early childhood educators report feeling overwhelmed and frustrated with these responsibilities.

The purpose of this entry is to assist readers in becoming familiar with two important concepts associated with child assessments, specifically reliability and validity. Reliability refers to the consistency of scores generated by an assessment, whereas validity refers to whether an assessment is assessing what it claims to assess. Reliability and validity are necessary to answer important questions such as

“How consistent are scores on child assessments?” and “What does this child assessment really measure?” While the choice of a particular type of assessment depends on the purpose, the assessment ultimately used should be selected on the basis of reliability and validity. A detailed review of the different types of reliability and validity is presented as well as guidelines used to evaluate reliability and validity in child assessments.

Reliability

As noted earlier, reliability is synonymous with consistency, and an assessment is considered reliable if it generates similar results over repeated time points regardless of who administers the assessments and/or alternative forms used. Reliability coefficients range from 0.00 to 1.00, with higher coefficients reflecting greater levels of reliability. There are several types of reliability, including test-retest, interrater agreement, parallel forms, and internal consistency. Each of these types of reliability has strengths and limitations and is discussed in detail. It is suggested at least one type of reliability, ideally more, should be considered when evaluating child assessments.

Test-Retest Reliability

Test-retest reliability is established by administering the same assessment to the same sample at two different time periods. The correlation between the two scores represents the degree to which the test is stable over time; high correlations reflect higher reliability. In general, short retest intervals generally produce higher reliability estimates. It is recommended that retest intervals not exceed 6 months. However, this interval should be shorter (i.e., less than 1 month) with young children due to their rapid developmental changes.

There are some reported problems associated with test-retest reliability. For example, practice gained during the first administration of the test might influence retest scores. Another issue is memory; that is, young children may rely on their memory from the first administration and thus

inflate the reliability estimate. Due to these issues, it is recommended that reviewers not rely solely on test-retest reliability when evaluating assessments.

Interrater Agreement

Interrater agreement is typically calculated by the percentage of agreement between raters/observers. If the data are continuous, the researcher would calculate the intraclass correlation. A type of interrater agreement statistic is Krippendorff's alpha, which can be used with all types of data (i.e., nominal, ordinal, interval, and continuous). An issue related to interrater agreement is the need for multiple raters/observers and hence the necessity to train multiple people, which in turn increases time and effort.

Equivalent/Parallel Forms

Equivalent/parallel form reliability is assessed by administering two equal alternative forms of one assessment. A researcher creates equivalent/parallel forms by randomly dividing one assessment into two equal parts that are administered to a sample at the same time. Reliability is calculated by the correlation between the two forms. Some issues associated with this type of reliability include needing a large number of items, as well as the assumption that the random parallel forms are equal and the two equivalent/parallel forms are assessing the same construct. Equivalent/parallel forms are only useful if the researcher is planning to administer two different, but equal, versions (i.e., Form A and Form B) of one assessment.

Internal Consistency

Although internal consistency is calculated in a variety of ways (e.g., coefficient alpha, split-half, Guttman, parallel), they all yield information related to the homogeneity or the degree of consistency of the content within a single assessment. Some internal consistency methods rely on a single administration of an assessment (e.g., Cronbach's alpha), while others rely on more than one administration (e.g., split-half). High estimates of internal

consistency indicate the items on the assessment are indeed assessing the same construct/trait. However, extremely high internal consistency scores may indicate redundancy within an assessment.

Factors Affecting Reliability

There are several factors (e.g., length, representativeness, measurement error) that could potentially affect reliability scores in child assessments. For example, assessment length has been shown to affect reliability—the longer the assessment, the more reliable the assessment. Another factor is item representativeness—the more the items represent the construct or trait being assessed, the greater the reliability. Finally, inconsistency in assessment results can often be attributed to measurement error. Measurement error is either random or systematic. Random error is caused by any factor (e.g., mood of participant, poorly defined item, item ambiguity) that randomly affects the measurement of a variable; whereas systematic error is caused by any factor (e.g., assessment not used correctly, response format, interviewer bias) that systematically affects the measurement of a variable.

Guidelines to Evaluating Reliability Associated With Child Assessments

It is important to note that test-retest, interrater agreement, equivalent/parallel forms, and internal consistency are not equivalent forms of reliability and as such it is suggested that multiple forms be used when evaluating the reliability of assessments. In addition, the reliability procedures and samples should be reported in detail in order to evaluate the strengths and weaknesses of how reliability was calculated. For example, sample characteristics are important for assessment evaluation because the reported reliability coefficient is only applicable to samples that are similar to the one used for the calculation of the reliability coefficient. Finally, researchers have recommended .70 to .80 as adequate levels of reliability in most research. However with high-stakes assessments, a higher reliability, such as .90, is required.

Validity

The central question with validity asks, “Is the assessment assessing what it is intended to assess?” Procedures for determining test validity evaluate the relationship between assessment performance and other indices of the behavior in question (e.g., intelligence, math achievement). As with reliability, different methods are used to establish validity. The different types of validity include construct validity (factor analysis, multitrait-multimethod matrix), content validity, and criterion-related validity (predictive, concurrent). A thorough validation of an assessment typically involves several different types of validity; however, the different types of validity are distinct and require different evidence.

Construct Validity

Construct validity is the extent to which an assessment measures a theoretical construct/trait (e.g., intelligence, verbal fluency, creativity). Based on theory, predictions are made about how performance on an assessment should relate to other variables. That is, construct validity is demonstrated when assessments are related to variables to which they theoretically should correlate (i.e., convergent) and do not relate to variables from which they should differ (i.e., divergent). Procedures for examining construct validity include correlations between assessment scores and a criterion score, factor analysis, and/or multitrait-multimethod matrix analysis. If high construct validity is shown in a child assessment, then one can be certain that the items represent one underlying construct.

Factor Analysis

Construct validity can be established through factor analytic techniques such as exploratory and confirmatory factor analysis. Factor analysis is a set of statistical techniques that reduce a large amount of information into a smaller, more manageable size. Factor analysis is used to confirm whether or not an assessment is measuring the construct it is purported to measure.

Multitrait-Multimethod Matrix (MTMM)

Another technique to establish construct validity is the multitrait-multimethod matrix (MTMM). The MTMM is basically t traits measured by m methods. The different types of methods can be instrument based (e.g., Guttman, Likert, Thurstone), occasion based (e.g., times 1, 2, 3), and/or informant based (e.g., self, teacher, parent). The traits and methods combine to form three different correlation matrices: homotrait-heteromethod (same-trait-different-method), heterotrait-homomethod (different-trait-same-method), and heterotrait-heteromethod (different-trait-different method). Validity is established by examining the correlation matrices to determine convergent and divergent validity.

Content Validity

Content validity is the extent to which the items on an assessment are a representative sample of the larger construct in question. This type of validity is a matter of judgment. Content validity is typically determined by subject-matter experts or assessment users through a review, a logical analysis, or both.

Criterion-Related Validity

Criterion-related validity assesses the relationship between assessment scores and some other criterion. High validity is demonstrated by a strong correlation between scores and a related criterion such as a validated assessment of the same construct. There are two types of criterion-related validity: predictive and concurrent. Predictive validity is established by comparing the scores on a child assessment with scores on another child assessment in the future; whereas concurrent validity is established by comparing the scores on one child assessment with the scores on another child assessment, both assessing the same construct, taken around the same time.

Factors Affecting Validity

There are several factors that can affect the validity of child assessments. For example, an assessment could consist of an inadequate number

of items or poorly written items and therefore affect construct validity. Another threat to validity is the lack of appropriate item analysis procedures. Insufficient validation analysis is a major threat to validity and includes only examining one type of validity instead of multiple types.

Guidelines for Evaluating Validity in Child Assessments

Validity of child assessments should be an accumulation of evidence. For example, when validating an assessment, a researcher may examine several different forms of validity such as content analysis, factor analysis, comparing correlation coefficients, and multitrait-multimethod matrices. In other words, validity is a continuous systematic gathering of information from a variety of different sources. It is important to note that an assessment may be valid for one purpose but not for others.

Conclusion

In summary, information about reliability and validity is important when determining the appropriateness of an assessment. If an assessment is proven to be unreliable and not valid, then the results of that assessment cannot be trusted. It is worth noting that an assessment can be reliable but not valid; however, an assessment cannot be valid without being reliable. Both reliability and validity can be assessed in several different ways depending on the assessment and the purpose of the assessment. However, it is advisable to examine more than one type of reliability and validity when evaluating child assessments.

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See also Authentic Assessment; Interpreting Assessment Data; Observational Assessment; Standardized Assessment

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RELIGION AND FAMILIES

Religion impacts families by ritualizing spiritual beliefs and rites held by families throughout generations. Families act in ways harmonious with their religious beliefs and principles and transmit religious traditions to their children. Very young children generally follow the religion practiced by their family. As children grow older, they become actively involved in decision making about their religious preferences and ultimate identities. Children's faith background helps define who they are as members of their family, community, and culture.

Religion plays a major role in the lives of families or conversely can have little impact if the family embraces agnosticism or atheism. Religious beliefs can influence, and also are influenced by, families' use of language, cultural and ethnic traditions, and socioeconomic status. Religion may play a minor part of family culture or fully represent or shape culture, transcend culture at a higher level, or conversely be influenced by culture. Religion interacts with culture in influencing parental theological judgments, attendance at religious services, and spiritual goals.

Families are responsible for promulgating the premises of their religious beliefs to their children. Very young children are unable to conceptualize the idea of a higher being or God in a manner similar to adults. Families use traditional stories, myths, and religious documents to help young children learn about the family's religious traditions. Extended and nuclear family members may act as religious liaisons for children in spending time exploring the constructs of the practice through churchgoing and ceremonial events.

Issues of religious discrimination come to the forefront as sectarian religious groups pursue a policy of interference with people's chosen religions. Such actions may cause repercussions inside communities affecting families and young children through many forms such as bullying of children at schools or neighbors stigmatizing others of diverse religious persuasions. Religious restrictions within families, such as enforced gender taboos, extremist family traditions, and sect or cult practices impact societal perceptions of religions.

Research

Research suggests that families who regularly attend church and discuss religious issues within the family circle have children who have better self-control, social skills, and learning approaches than those who do not. Religion can be supportive; through networking, children are reinforced by pro-family messages through other families' voices. This same research indicates that children are more likely to have personal challenges when their parents argue in front of them about religion.

Familial religious beliefs that tend to reinforce blind adherence to tenets of the faith and emphasize control of children act as a severe rather than subtle force in encouraging children to follow rules. Religion and spirituality can be instrumental in the lives of youth and families.

The American Academy of Child and Adolescent Psychiatry posits religion and spirituality can serve as sources of coping and strength during times of stress, trauma, and illness. Religion is a bedrock for the moral and social development of children. Families are served by religious institutions offering community agency support for children and families, such as child care, family shelters, food pantries, after-school recreation programs, and emergency aid.

Families, Religion, and Education

The First Amendment of the Constitution of the United States has been interpreted to mean that “public schools may not inculcate nor inhibit religion” (The Institute for Communitarian Policy Studies at The George Washington University, n.d.). They must be places where religion and religious conviction are treated with fairness and respect. Public schools uphold the First Amendment when they protect the religious liberty rights of students of all faiths or none. Culturally supportive family involvement practices include respecting all families’ religious beliefs and allowing children to share those freely in the classroom.

The issue of religious beliefs surfaces around holidays. In the United States, the school calendar is built around the holidays celebrated in the Christian religion. Schools plan their curriculum around the dominant culture themes, and the classroom read-aloud often features holiday stories from an Anglo-Saxon perspective. This ethnocentric, monocultural emphasis can lead to cultural discontinuity for students from different religious backgrounds, where they feel disconnected from the overall classroom cultural environment because of a lack of connectedness with what is being taught.

Schools demonstrate equity when they ensure that the curriculum includes study about all world religions. Diverse religious holidays offer rich opportunities to teach about religion in schools. Teaching about religious holidays is permissible, as opposed to celebrating religious holidays. Students have the right to express their religious views during a class discussion or as a part of a written assignment or activity. Certain units of study, such as religious holidays, may lead to questions and discussions relating to faith or religious beliefs.

Families and teachers can model a respectful attitude toward others’ religious beliefs and withhold judgment concerning these beliefs. It is also worth remembering that young children’s opinions are often based on their families’ values and may be controversial, and that children and their families can be encouraged to discuss these opinions together. In the classroom, discussing different religious holidays or festivals may not only add to students’ academic knowledge about the world but also be a way to explore family and community diversity.

Families act in accordance with their religious standards to promote homogeneity in a closed society. In an open society, religious diversity among families promotes cross-cultural richness in communities and a commitment to examine and embrace differing beliefs.

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See also Cultural and Linguistic Responsiveness; Cultural Competence; Cultural Diversity

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RESILIENCE IN ADVERSITY

Resilience in adversity refers to the phenomenon that many children achieve positive developmental and educational outcomes despite experiencing stressful, high-risk, and adverse circumstances in their lives. Early adversity includes experiencing risk factors such as child abuse or neglect, homelessness, poverty, or even premature birth that are associated with serious social, emotional, health, or school-related problems. Developmental research provides evidence for the positive influence of protective factors that promote resilience for children in the face of early risks. This entry provides information about early risk and protective factors from a bioecological systems perspective and suggests opportunities within early childhood educational contexts to promote positive development for children experiencing adversity.

Overview

Why do some children growing up in the context of risk and adversity, such as living in poverty, end up thriving socially and academically, whereas others do not? What protects children who experience these early risks from negative outcomes, such as aggressive problem behavior or school failure? What are factors related to individual differences within children and their environments that promote positive outcomes? Children who display positive development and adaptation despite experiencing adversity are described as *resilient children*.

Ecological Theoretical Framework for Understanding Resilience

According to Urie Bronfenbrenner's bioecological theoretical framework, several nested environmental contexts influence children's development. These range from proximal *microsystem* contexts (those closest to and most directly affecting the child, such as the family, school, and neighborhood) to more distal contexts such as the *macrosystem* and *exosystem* that encompass broader societal influences such as sociopolitical, legal, cultural, and economic conditions surrounding the child, family, and community. The processes through which systems influence children are seen as bidirectional over time. Not only are children influenced by the environment, but the environment is responsive to individual child-level *ontogenetic* (biological or developmental) characteristics as well. Multiple risk and protective factors may influence children's development in the context of adversity.

Research

There is a large body of research documenting the negative effects of risk factors, at each level of the ecological model, on children's development. In addition, research identifies several strengths within the child, family, school, and community that can promote resilience for children who experience such risks and early adversity.

Broader Contextual Risks

There are several contextual risk factors, the most pervasive being poverty. Poverty is associated with several stressors including increased risk for child abuse and neglect, food insufficiency, lack of access to adequate medical care, stable housing, safe neighborhoods, and other community resources known to promote positive outcomes. Experiencing poverty and related risks is associated with several negative outcomes such as delinquency, aggressive and antisocial behavior, low academic achievement, limited cognitive skills, and high dropout rates.

Living in poverty also exposes children to living in underresourced neighborhoods in which there is high unemployment, violence and crime, and restricted access to community resources such as libraries, high-quality schools, supermarkets, and safe playgrounds. Also, children are more likely to attend underresourced schools with limited opportunities for success and advancement, and this may result in high rates of underachievement and dropout. Finally, ethnic minority children, who are disproportionately at risk for living in poverty, also are likely to experience racial discrimination or injustice, which may affect negatively their self-esteem and social-emotional development.

Family Risks

Several familial conditions exacerbate the risk for children to develop serious academic and social-emotional difficulties. Research has emphasized child abuse and neglect, interparental conflict, parental psychopathology, and harsh parenting as risk factors in the family context. Experiencing child abuse or neglect is associated with increased risk for delinquent behavior and conflictual peer relationships. Conflict between parents has been associated with children's psychological difficulties, conflicts at school with teachers and peers, and aggressive behavior. Parent mental health problems, such as depression or substance abuse, and harsh parenting have been linked to children's psychosocial difficulties, including externalizing and internalizing problem behavior.

Contexts and Processes That Foster Resilience

Bronfenbrenner's bioecological model suggests that there are multiple processes that can support positive developmental outcomes for children who experience the risks noted earlier. This theory suggests that early contexts, especially those closest to the child (such as the family and school), are important opportunities for early identification and intervention, to support resilience during the early childhood developmental period. *These positive*

influences can be enhanced to foster developmental strengths within the child. All children are born "ready to learn" and despite living in adverse circumstances may thrive when provided with positive, protective experiences in their home, school, and community contexts.

Individual Within-Child Strengths as Protective Influences

Research has identified several individual *within-child* level factors, such as temperament, self-regulation, cognitive abilities, and self-esteem, that are protective for children and promote their resilience in the face of adversity. An adaptable and approachful temperament is associated with more positive outcomes than less adaptable temperamental styles. A child who displays this temperamental style is described as confident, sociable, attentive, cheerful, adaptable to change, and approaching new situations and others in a positive way. Children with this temperamental style are less likely to develop behavior problems, more likely to develop positive social interactions with peers and teachers, and more likely to succeed in school.

Another factor related to temperament is *self-regulation*, which is defined as children's ability to regulate their emotions, attention, and behavior. Children who have high self-regulation skills display higher engagement in school, motivation to learn, and social competence and lower problem behavior. Children's cognitive ability (or intelligence) is also associated with resilience. Higher cognitive ability predicts academic achievement, can increase self-esteem and self-efficacy in school, and in turn results in lower antisocial and conduct behavior problems. Cognitive ability also may be associated with more sophisticated problem-solving skills, which would help children deal more effectively with stressful situations. Self-esteem and self-efficacy also promote self-confidence and are associated with secure relationships and school success. Research has shown that success in one setting can increase a child's self-esteem and feelings of self-efficacy, which in turn increases motivation to do well in

other settings. This also promotes adaptation and coping skills, as well as higher social acceptance.

Family Strengths as Protective Influences

Several aspects of the family and parenting environment promote resilience, such as a positive parent–child relationship, family engagement in children’s education, and family pride in ethnic identity. Positive parent–child relationships such as playful interactions, and emotionally sensitive, contingent responses to children’s needs, help children feel secure and promote more consistent supervision and discipline.

High parental engagement in children’s learning and education has been found to mitigate the effect of stressful life events and promote resiliency, especially for children living in poverty. *Parental engagement* is defined as the participation of parents in regular, two-way, and meaningful communication involving children’s academic learning and other social activities. When parents engage in educational activities with their children, such as reviewing the names and sounds of letters at home or visiting educational places such as the zoo and library, children show higher kindergarten readiness skills. For children of ethnic minority backgrounds living in poverty, a strong ethnic identity also has been found to promote resilience since it is associated with positive peer and familial relationships and higher self-esteem.

School and Classroom Protective Influences

School is the primary context in which children spend their time (outside of their family). Interactions with key individuals such as teachers and peers within schools play an important role in fostering resilience. Positive teacher–child relationships are one of the most critical protective factors that can support children’s motivation to learn, emotion regulation, social-emotional skills, and establishment of positive peer relationships. Having social support from a teacher gives students more emotional resources to promote healthy social-emotional development and positive attitudes toward school; in turn, with greater social, emotional, and

positive approaches to learning, children are more likely to be engaged in school and succeed, buffered against stressful life events.

Positive peer interactions are also important protective factors and have been associated with early learning in academics (especially language development, creativity, and imagination) as well as increases in social skills. As naturally occurring opportunities, playful interactions with peers, in the home and early childhood classroom, provide opportunities to support “resilient learners” and “peer leaders.”

Community Protective Influences

The neighborhood context may serve as a protective factor for children experiencing adversity by providing extrafamilial social support and connectedness. Neighborhood characteristics such as social cohesion and social control are associated with resilience. Social cohesion refers to the degree to which members of the neighborhood share similar values and beliefs. Social control refers to the degree to which members are likely to take action on behalf of another member’s child. If there is high social cohesion, members of the neighborhood are more willing to monitor and take action on behalf of children in the neighborhood. For example, if a neighbor notices a child is not going to school because he or she does not have consistent or reliable transportation, the neighbor may take action and start picking up and dropping off the child at school. Children living in impoverished neighborhoods with higher social cohesion and higher social control have more positive academic and social outcomes than those in impoverished neighborhoods without these characteristics.

Opportunities to Foster Resilience During Early Childhood

The early childhood developmental period is an optimal time for interventions to promote resilience in adversity. It is important to identify naturally occurring opportunities to foster children’s strengths within home, school, and community

contexts. This strengths-based approach is reflected in the models of several early childhood education and intervention programs. Such programs focus on promoting positive development for children growing up in adversity.

As an exemplar, Head Start is the United States' largest, most comprehensive federally funded program that from its inception has focused on supporting positive development for children and families living in poverty. It adopts a whole-child approach to intervention and provides early childhood education, parent involvement, health services, mental health services, nutrition, and social services to children and their families. In addition, Head Start takes a two-generation approach, focusing on addressing the needs of both parents and children together, to leverage improvements in parents' education and employment opportunities, as agents of positive change in their children's lives.

Other interventions within early childhood programs serving children living in the context of adversity can target important contexts for resilience, such as

- improving the quality of emotionally and instructionally supportive teacher–child interactions to enhance children's school readiness skills (i.e., academic, social, emotional, and behavioral skills). MyTeachingPartner (MTP) is an empirically validated intervention in which teachers work closely one-on-one with a coach to improve the quality of their interactions with children in the classroom. Findings from studies evaluating MTP show that children show greater gains on language and literacy skills and a reduction in problem behavior.
- providing a safe and supportive context in preschool classrooms to encourage interactive peer play for children displaying social isolation due to maltreatment by pairing them with resilient peer “play buddies.” One such program is Resilient Peer Treatment. A study by John Fantuzzo and Patricia Manz found that socially isolated Head Start children, when paired with a resilient “play buddy” in a safe play environment

in the classroom, showed gains in interactive peer play and a reduction in solitary play at the end of the intervention.

- providing support and coaching to parents to improve the quality of parent–child relationships and family involvement in children's education.

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See also Bioecological Theory; Early Intervention; Head Start; Poverty Effects; Stress and Resilience in Families

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RESOURCES FOR INFANT EDUCARERS

Resources for Infant Educators, often referred to by its acronym, RIE, is a not-for-profit organization founded in 1978 in Los Angeles by infant specialist Magda Gerber and Tom Forrest, a pediatric neurologist in Palo Alto, California. The goal of RIE is to help raise authentic infants who are competent, focused, peaceful, involved, cheerful, cooperative, resourceful, initiating, confident, aware, secure, attentive, curious, exploring, interested, and inner-directed.

Gerber and Forrest had been working together since 1972 as codirectors of the Demonstration Infant Program (DIP), a preventive infant mental health program at the Children's Health Council in Palo Alto. Eventually, Gerber and Forrest conceived RIE as an extension of the approach in working with parents and their infants and toddlers that they had developed at DIP, based upon the idea of "selective intervention," with the emphasis on observation and allowing the child to do what he or she could do without help or interference unless absolutely necessary.

Born in Budapest early in the 20th century, Gerber began developing the RIE approach known as *Educaring* (a term she coined) as a friend and colleague of Emmi Pikler, a pediatrician in Budapest, Hungary, who founded a residential nursery for infants whose parents were either dead or unable to care for them, in the aftermath of World War II. Pikler had taken on the task of caring for infants in an institution (now known as the Emmi Pikler Institute, which is still offering training to professionals in the infant/family field) in a way that preserves their ability to connect in a loving way with adults, to value themselves, and to act autonomously with consideration for the needs and wishes of others. This was in sharp contrast to the devastating outcome known as hospitalism, a wasting disease thought to be caused by lack of stimulation, at many other orphanages in Europe after the war.

Gerber first met Pikler when her daughter was sick, was astounded at the respect Pikler showed

the child, and retained her as the family pediatrician. She was gradually drawn in to learn from her and, eventually, to teach and train nurses with her at the institute. The Educaring Approach is an extension and elaboration of Pikler's well-researched ways of fostering movement, cognition, and human connection, combined with Gerber's deeply respectful and progressive method of teaching adults, especially parents and child care professionals. Based also on the constructivist theory of Jean Piaget and John Bowlby's attachment theory, Gerber's method of teaching demonstrated her principles in the way she taught, with an emphasis on authenticity. She felt it was important to give to adults what one wanted them to give to children, most especially in slowing down and allowing them to learn in their own time and in their own way.

During Gerber's lifetime, she had enormous and wide-reaching influence on best practices in infant and toddler care and education through her mentorship of many educators. Among her influential students, colleagues, and proponents are Janet Gonzalez-Mena, who interned with Gerber at DIP and went on to write many child development books, including the widely adopted text *Infants, Toddlers and Caregivers*, now in its ninth edition; and J. Ronald Lally and Peter Mangione, who cofounded WestEd and PITC (Program for Infant/Toddler Care). She taught for 20 years at Pacific Oaks College in Pasadena, California, known worldwide for its progressive approach to early childhood education. Many of her students have gone on to teach at other colleges around the world, and they frequently refer to her work and teachings.

The RIE organization, which has continued to promote Educaring as a highly relevant model in the 21st century even after her death in 2007, offers classes and workshops for anyone wishing to learn the approach, in a number of specified formats. For parent and infants, Gerber developed a unique educational format. The RIE Parent-Infant Guidance Classes offer a two generational setting in which parents have a chance to learn the approach through the demonstration and discussion of the principles by the facilitator, who must

be a fully trained RIE associate. During the weekly classes, the infants or toddlers have the opportunity to move freely, play as they like in a safe yet challenging environment, connect with their parent whenever they wish, and learn to be with other children of like ages, also facilitated by the RIE associate and RIE practicum student/demonstrator.

The basic theory course for adults only is known as RIE Foundations: Theory & Observation, and is open to anyone. The professional training can continue as students may be recommended for the RIE Practicum and from there to the RIE Internship. Students who complete all three levels can join the RIE Alliance of Associates and teach Certified RIE courses, such as Before Baby, Nurturing Nanny, RIE Parent-Infant Guidance Classes, and, for those with additional credentials, RIE Foundations: Theory & Observation. There are RIE associates all across the United States and around the world, and their ranks are growing.

As described in the Educaring Approach section of its website, RIE encourages the following in order to foster quality care (RIE, n.d.):

- Basic trust in the child to be an initiator, an explorer and a self-learner;
- An environment for the child that is physically safe, cognitively challenging and emotionally nurturing;
- Time for uninterrupted play;
- Freedom to explore and interact with other infants;
- Involvement of the child in all care activities to allow the child to become an active participant rather than a passive recipient;
- Sensitive observation of the child in order to understand his or her needs;
- Consistency, clearly defined limits and expectations to develop discipline.

Ruth Anne Hammond

See also Fathers; Infant and Toddler Programming; Infant-Parent Relationships; Mothers; Mutual Regulation Model; Parenting Support and Education; Warm and Responsive Interactions

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ROUGH AND TUMBLE PLAY

Rough and tumble play is a play style in which children are involved in very physical running, rolling, jumping, chasing and fleeing, tagging, and wrestling that all animal young—including children—do. It is known by many alternate names: roughhousing, play fighting, horseplay. Many of the actions involved in rough and tumble play mimic aggressive actions although the intention of the play is not aggression. Instead, the intention of rough and tumble play is sustained physical engagement between a solitary child or a child and an object, or physical engagement between two or more children, often in a game with rules.

In solitary rough and tumble play, the child uses vigorous physical movements, such as twirling, jumping, rolling, and swinging with arms out wide. A child may also persist in physical challenges such as climbing up a piece of playground equipment or running up a grassy hill. Two children may hold hands and swing each other around in circles, or take turns chasing and tagging each

other, or wrestle. Several children may organize a rough and tumble game with rules, setting boundaries and guidelines about the play. Duck, duck, goose and king of the mountain are such rough and tumble games.

For young children, rough and tumble play is seemingly universal; the first incidences of rough and tumble play were recorded in the 12th century. Rough and tumble play has a determined set of characteristics that—when present—help define the play as rough and tumble. Children typically have a play face, meaning their facial expression is open, smiling, and relaxed. Children are voluntary participants in the play and continue their participation in it willingly. They also sustain the play for as long as possible and return to the rough play again and again. The remainder of this entry discusses the benefits of rough and tumble play, myths and misperceptions about rough and tumble play, and how adults can support rough and tumble play.

Benefits of Rough and Tumble Play

Researchers have determined that every species of every animal studied in every population on Earth engages in rough and tumble play while young. This universal nature of rough and tumble play can be attributed to the myriad benefits ascribed to the play, as rough and tumble play has considerable merit in a young child's overall development. When children engage in rough and tumble play, their physical, social, cognitive, and language development are positively impacted.

Physical Development

The physical benefits rough and tumble play contribute to young children are overt. During this very vigorous play, children are exerting an immense amount of very intense physical energy. Roughhousing is the prime way young children release energy and relax. It is also the prime way young children engage physically with each other and the prime way young children relate physically to each other. While roughhousing, young children are using and further developing their locomotor

and fine motor skills. They are also practicing physical skills that may be required in adult life. Some believe the movements children use in rough and tumble play may be practice for future self-defense, and that the rough play supports development of critical brain pathways required to aid responding to aggression and dominance. The physical contact afforded to young children through rough play also allows them to meet the majority of their physical touch needs and, for young boys, does so in a way that is free of social stigma or bias.

Social Development

The social benefits obtained through rough and tumble play are established as children learn to successfully engage in and sustain play in this play style. Successful rough and tumble play is dependent on the child's ability to signal, detect signals, alternate and change roles, take turns, and reciprocate. As children wrestle, for example, each child must be able to accurately decode what the other child's face and body are communicating so that the wrestling remains within the boundaries of appropriate rough play. Each child must also be able to take turns being the strongest, fastest, or first. And, as rough and tumble play often occurs in groups of two or more children, each child must be able to be second, third, and so on in order for the play to continue peaceably. Through the process of navigating these social skills within the context of rough and tumble play, children are actually honing their individual skill levels, not only increasing their ability for rough play successfully, but also increasing their ability to navigate other social situations that require this same skill set successfully.

As infants, children become aware of their bodies and movements during their rough and tumble interactions with other infants, with a parent or caregiver, and with objects like large rubber balls. Through their physical interactions, these infants begin to understand not only their own bodies and the effects of their body movements, but also the effects of their movements on others' bodies as well. As infants kick, roll, grab, and push each

other, their experiences add to their growing awareness of self and another. This awareness is the beginning of the development of empathy, and it results primarily from the infants' physical interactions with each other.

In the preschool years and beyond, children are dependent on their social skills in turn taking and reciprocity to successfully navigate rough and tumble play episodes. Children who engage in rough and tumble play exhibit strength in these social skills. Conversely, children who do not rough and tumble play well with their peers generally lack the ability to take turns and reciprocate in the play. Rough play is perhaps of more value to these children as rough and tumble play provides the scenarios needed to develop the social skill they lack. Children who roughhouse with each other are generally already friends with each other and they voluntarily choose to participate in the rough play episodes. Children who lack the requisite skills to roughhouse successfully may have difficulty locating rough play partners from among their peers and may require adult assistance in order for their rough play to continue.

Cognitive Development

Rough and tumble play enhances young children's cognitive development as it provides them with opportunities to engage in complex decision making and problem solving. In infancy, children are learning to coordinate their body movements in order to achieve specific outcomes. As infants bang, throw, and grab—other objects or each other—they are exhibiting curiosity, the foundation of cognitive development. Often the rough and tumble play scenarios preschoolers and school-age children organize for themselves require the children to pay attention, plan, organize, sequence, and then make decisions about how the play will progress. As children engage in more and more of these rough and tumble play scenarios, the more likely they are to develop strong problem-solving skills.

Bouts of rough play also aid children's cognitive development as children are better able to pay attention after engaging in this vigorous rough play. Children also demonstrate better academic performance in both reading and mathematics after participating in rough and tumble play. Rough and tumble play also supports the release of chemicals that affect the midbrain, lower forebrain, and cortex. These chemicals positively affect the development of these brain areas, the areas responsible for decision making and for social discrimination. Children who have not had sufficient opportunities to roughhouse demonstrate an inability to adjust their behavior to the idiosyncrasies of a peer's movements.

Language Development

An aspect of cognitive development, language development, is also supported when children rough and tumble play. The dimension of language development that is impacted the most is children's nonverbal language development. When children rough and tumble play with each other, they typically use a variety of signals, gestures, body postures, and facial expressions to communicate with each other what each intends from the play. As children navigate the rough play, they learn how to accurately decode these signals and gestures. They also learn how to understand the enormous amount of information that is communicated through a facial expression or through the tension of a hand or arm. The majority of information adults communicate with each other is nonverbal, and so children are dependent on the opportunities rough and tumble play provides them to practice and perfect their nonverbal language skills.

Myths and Misperceptions

Rough and tumble play is a vital part of a child's overall optimum development; however, there exist several misunderstandings and misperceptions about what rough play is, and what it is not. Rough

and tumble play is not the same as real fighting, although several of the body positions and gestures may appear to be the same as ones used in real fighting. The goal of rough and tumble play is comradery. In rough and tumble play, the child's face is relaxed and smiling; he or she is a willing participant and returns eagerly to continue the play. The goal of fighting is dominance and control. In fighting, the child's face will be tense and, often, the child will be crying. One child will dominate another, and the dominated child will typically try to leave the play episode, usually by running away, and will not willingly return to the play.

The movements that young children use in their rough play can also be misleading if not accurately interpreted by the attending adult. Rough and tumble play is rough, very vigorous, often boisterous, and always physical. The movements children use often mimic aggressive movements. The actions seem aggressive, but they are not. Instead, the children are engaging in a type of pretend aggression just as they pretend and act out in other sociodramatic play scenarios. From a cultural perspective, the amount of pretend aggression in children's rough and tumble actions correlates to the amount of simulated or actual aggression children witness in their own lives and in their own cultures.

Another misperception is that rough and tumble play will become fighting if children are allowed to engage in it. Most children are quite adept at recognizing that play fighting is not real fighting. In fact, children are better at discerning rough and tumble play from real fighting than many adults are. When rough and tumble play does become real fighting, one or more of the children involved lack the skills, especially the skill of turn taking and reciprocity, required to roughhouse successfully. In these instances, adult support and guidance can aid these children while they play so that they can, through the rough and tumble play, have the opportunities needed to develop the very skills they currently lack.

There is also a misperception that boys are the only children who engage in rough and tumble

play. Although boys do roughhouse in greater numbers than girls do, both girls and boys enjoy and willingly participate in rough and tumble play. Boys seem to exhibit boisterous physical actions that more closely mimic actual physical aggression than girls do. Again, this mimicked aggression rarely leads to real aggression. Boys tend to initiate more rough and tumble games, and girls tend to withdraw from rough play at an earlier age than boys do. As boys age, the mentoring opportunities available within rough and tumble play are imperative for them, and this play style provides them ways to express needed intimacy in socially acceptable ways.

Supporting Rough and Tumble Play

Children rough and tumble play with each other without instruction from adults. To support their rough play, though, there are elements adults can provide that support their play and help them engage in and extend their rough and tumble play bouts. Indoor environments should have beveled or rounded edges instead of pointed ones. Area rugs should be skid free. There should be enough space for children to navigate comfortably, and a safety surface should be provided to absorb the shock of falling if children are more than 2 feet off the ground. Outside, children rough and tumble play longer and more productively in natural landscapes with logs, rolling hills, sand pits, and embankment slides than they do in the more typical playground with several pieces of large, fixed play equipment. Expectations of the children's play and policies about how adults can guide and support rough and tumble play are also beneficial for young children. Supervision, too, is key. Supporting rough and tumble play requires supervision of it.

Frances M. Carlson

See also Aggression; Challenging and Supportive Climates; Challenging Behavior; Child-Initiated Play; Language Development; Movement Education; Physical Education; Play, Benefits of; Social-Emotional Development

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SCHOOL OF THE 21ST CENTURY (21C)

The School of the 21st Century (21C) is a model approach to the provision of school-based child care and family support services. Schools implementing the School of the 21st Century address the needs of children and families beginning at the birth of the child, providing home visitation programs; child care for preschool and older students; and a range of health, mental health, and social services. Conceptualized in 1987 by Edward Zigler, it is one of the earliest models to view the school as the focal point in the community and utilize schools to provide both academic and non-academic services.

Overview

There are hundreds of 21C schools across the country; some of them are also known as family resource centers. Hundreds of other schools are implementing similar approaches such as full-service or community schools. Although some programs focus on low-income children who are at high risk for educational failure, 21C is universal, providing services for all children regardless of their socioeconomic background. Its goal is the optimal development of all children, through the provision of child care and family support services.

In its linking of child care and education, 21C has contributed to significant changes within the school, noting that education begins early in life and underscoring the concept of the whole child, that is, that children develop as a whole. All developmental pathways—cognitive, social, emotional, and physical—are essential for optimal growth and development. Moreover, there is interdependence in all aspects of development, and deficits in one area often affect the whole child. A substantial body of research exists that shows that health and social and emotional skills are vital to success in school as well as in life.

Also of significance is the notion underlying 21C that several institutions influence children's development. Urie Bronfenbrenner portrayed his theory of human development showing that children develop within and are influenced by multiple contexts: their own biology, the home, the neighborhood, the school, the media, and the prevalent culture. The ecological approach also includes influential agents such as one's friends, health, and other services that may exist, indicating as well that children not only are influenced by those around them; they themselves influence others and thus, in part, shape their experiences.

Need

During the past several decades, child care has become a major institution affecting children.

Children, often from the first few months of life, are in child care centers or forms of familial or nonfamilial care. Yet, there were no policy provisions to accommodate this societal change. A related change has been the dramatic rise in the number of single-parent households, due to divorce and parents who do not marry. Other changes in family structure have been caused by high mobility, especially in families with young children, and a lack of social capital, which refers to the dearth of adults in the lives of children and weak ties between families and their neighbors and kin. The result has been increased isolation and alienation, with many parents raising children with little help and social support, further exacerbating the need for child care systems.

In addition to these societal changes, a large number of young children live in poverty, and increasing populations of children are from immigrant families. These circumstances create stressful conditions under which many young children are growing up and can have profound developmental and educational consequences.

Implementation

It is against this backdrop that the School of the 21st Century was conceptualized, calling schools to (a) provide services on a continuum, beginning at the birth of the child through the elementary and middle school years; and (b) utilize the school building for the provision of child care and the coordination of various other child and family support services.

21C includes several service components:

- Guidance and support for parents: Recognizing parents' important role in their child's development before they even come to school, 21C schools offer home visits, playgroups, and workshops for parents of infants and toddlers.
- Child care: 21C schools provide all-day, year-round, high-quality child care for children ages 3 to 5, and before- and after-school and vacation care for school-age children.
- Health: In collaboration with community partners, 21C schools offer health, nutrition, and fitness opportunities and physical and dental assessments.
- Training for child care providers: To strengthen the quality of child care, 21C schools provide regular staff trainings and invite others in the community.
- Information and referral: 21C schools inform families about a wide range of services that are available in the community.
- Mental health: Programs are implemented to ensure positive school climate and enhance children's social and emotional competence and coping skills.

Guiding Principles

Differences exist among schools and communities in the need for 21C services noted above as well as the resources available for implementation. Hence, not all 21C service components will be implemented in all schools. Additionally, schools often undertake a phase-in approach and prioritize implementation, beginning with some services and later adding to these.

This flexibility in implementation has enabled schools to address demographic and other changes that occur over time and has contributed to the success and sustainability of 21C. It has meant that there are variations among 21C schools in the constellation of services provided. However, all 21C schools share the same goal: the optimal development of all children. Also, they uphold the 21C guiding principles, which are as follows:

1. Strong parental support and involvement
2. Universal access to child care, achieved through sliding scale fees
3. Programmatic focus on physical, social, emotional, and intellectual development of children
4. High-quality programming that is developmentally appropriate and measured by staff qualifications and staff-child ratios, group size, staff turnover, and other relevant criteria

5. Professional training and advancement opportunities for child care providers
6. Noncompulsory programming utilized at the discretion of the family

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See also Bioecological Theory; Healthy Environments for Social-Emotional Development; Parenting Support and Education

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SCHOOL READINESS

The concept of school readiness has been defined and redefined over the years. School readiness refers to the developmental status of children at the time of school entry (i.e., kindergarten) with an emphasis on skills and dispositions that affect later academic success in school. A common thread in definitions of school readiness is that it is multidimensional, including a shared focus on cognitive/preacademic, communication, and social-emotional learning.

Efforts to address school readiness are longstanding. Head Start was founded in 1965 with the hope that early intervention could provide children living in high poverty the “head start” they needed to be successful in kindergarten. While the original design of that early intervention did not have intended outcomes, decades of research confirm that the path to children’s success in public school

begins long before kindergarten. A study by Betty Hart and Todd Risley conducted in 1995 showed that by age 4, children growing up in high-poverty families heard 32 million fewer words than children in professional families, a finding with important implications for later literacy learning.

It is widely accepted that children’s earliest learning happens within their relationships with key adults. With more than 12 million children under age 5 spending at least part of the time in nonparental care, the potential for early childhood care and education programs to mitigate gaps in school readiness is recognized as a strategy to support school success. The National Institute for Early Education Research (NIEER) reports that prekindergarten programs, some universal and some targeted, continue to expand as states seek to raise and maintain student achievement and hold schools accountable for children’s learning. State-funded prekindergarten programs have become a primary strategy for addressing income and racial disparities in school achievement. Research linking children’s participation in early childhood programs to higher academic and social readiness for school shows that higher quality programs lead to greater gains, especially for children growing up in poverty.

This entry briefly traces the historical and political context of school readiness, discusses the characteristics of effective programs and features of programs, summarizes research, and indicates future directions for this important topic.

Historical and Political Context

Two types of readiness coexist and overlap in discussions of readiness and policies affecting it. One type of readiness refers to a child’s developmental growth sufficient for him or her to benefit from schooling. Issues of health, self-care, and emotional and social skills combine with some degree of academic skill. Historically, the belief that maturation was the primary consideration for a child to be successful in kindergarten led to the practice of routinely screening children out of kindergarten. The intent of the practice was to protect the

child from a curriculum deemed too difficult. However, children held back from kindergarten did not benefit from this practice in terms of later school achievement, and many of the most vulnerable children were hurt by it since they missed out on a year of education at age 5.

The second type of readiness evident in discussions of the topic defines readiness as a specific set of academic skills aligned to the kindergarten curriculum and common state standards for children completing prekindergarten programs. This shift in thinking and in public policy gave rise to Goals 2000: Educate America Act, Pub. L. 103-227, in 1994 where the onus for readiness was shared by the school, family, and community. Schools were encouraged to be ready for children and to provide the supports necessary for communities and families to prepare children adequately. The goal was having all children “ready to learn” by the year 2000. A focus on transition to school included practices such as timely records transfer, orientations for children and families, and regular conversations between kindergarten and preschool teachers. However, the impacts of these practices on later school achievement were not systematically examined. Goals 2000 became the precursor to No Child Left Behind in 2001 and assumed that all children could learn. It mandated measurable improvement in student achievement to demonstrate how schools were responding to the challenge of supporting readiness. The onus for readiness shifted more to teachers, schools, and accountability measures and less on children’s entering skill level. The mechanisms by which teachers and schools support school readiness is the current focus of attention, as accountability for school readiness is shared between early care and education programs and public schools.

Skills Associated With School Readiness

Since the enactment of the No Child Left Behind Act in 2002 and the growth of state accountability systems, early childhood program curricula and assessment have emphasized assessing early literacy and math skills. It is not surprising to learn

that children entering kindergarten with specific early reading skills such as naming letters, phonological ability, beginning sound-letter knowledge, and expressive and receptive language show higher early literacy scores when tested later. Similarly, proficiency in early numeracy skills, especially in counting and number sense, is correlated with later math achievement. Catherine Scott-Little, Sharon Lynn Kagan, and Victoria Frelow conducted a content analysis of 46 early learning standards in 2005 and found that more frequent emphasis was given to language and cognitive domains than to physical development, reading comprehension, and social-emotional learning. They also found that standards developed under state departments of education emphasized social and emotional learning less often than standards developed by other agencies such as Head Start and those who regulate child care.

Professionals and researchers in the early childhood field point to the importance of social-emotional learning to later school success. Harder to measure and less likely to be tracked into elementary school are outcomes associated with social-emotional learning and play. Both are less well documented in the school readiness literature despite being named as important by parents and teachers. It is documented that 5-year-olds with poor self-regulation skills, known to be related to emotional learning and play, are likely to encounter socioemotional and academic difficulty in fifth grade.

Characteristics of Effective Prekindergarten Programs

There is general consensus that high-quality prekindergarten programs can support children’s school success. However, research conducted by Robert Pianta, Martha Cox, and Kyle Snow (2007) suggests that most settings fall short of meeting the conditions known to support school success. If we are to better understand why achievement gaps persist in spite of the expansion of prekindergarten programs, it is important to understand the characteristics of those programs.

In 2010, Diane Early and a team of researchers reported the results of an 11-state study examining how children spent time in preschool. Analysis showed that the prekindergarten day was divided among free choice, teacher-assigned activities, routines, and meals. Children spent much of their time in language/literacy, social studies, and art, and less time in math and gross motor activities. Of concern was the observation that up to 44% of the entire day and 88% of routine time was spent in “no coded learning activity.” It was also noted that classrooms with children from more affluent families, with lower proportions of racial minorities, were generally engaged in richer and more stimulating experiences. Other studies reported high levels of non-goal-directed activity in preschool settings. An earlier study led by Early and colleagues using the National Center for Early Development and Learning’s multistate data found children interacting with adults only 27% of the time they are in programs, another indication of the lack of productive time.

Attention has turned to the role of the teacher in structuring experiences that foster and sustain academic and social growth. A 2007 study by a team of national researchers, Jennifer LoCasale-Crouch and colleagues, found only 15% of classrooms to be of high quality in both emotional and instructional support, while in 19% of classrooms, the levels were at least one standard deviation below the mean. Another study, led by Carollee Howes in 2008, found that children showed larger gains in academic outcomes when they experienced higher quality interaction or closer teacher–child relationships. Gains were not related to characteristics of the child or the program (e.g., program location or length, adult–child ratio, or teacher qualifications). Increasing teachers’ academic and emotional responsiveness to children is a structural improvement that may be relatively easy to measure and support.

Building on his own work and that of colleagues conducting national studies over 2 decades, Pianta and colleagues have identified three domains with strong empirical and theoretical foundations used to measure classroom quality: emotional support,

classroom organization, and instructional support. This group of researchers developed a valid and reliable classroom observational tool called the Classroom Assessment Scoring System (CLASS) to measure teacher–child interaction. Indicators rate quality at the classroom, not individual child level. Research reported by the Office of Head Start in 2012 (Halle, Hair, Wandner, & Chien) that used the CLASS tool and followed up on children’s outcomes in elementary school suggests thresholds of quality in the ways teachers interact with children and organize programs. Classrooms need high levels of emotional and organizational support (scoring 5 or better on the CLASS 7-point scale) to promote positive social behavior and reduce challenging behavior. The threshold for protecting children’s academic achievement was much lower with a score of 3, though higher in the instructional support domain associated with improved academic outcomes for children. More than a third of Head Start programs assessed in the 2010–2011 monitoring report fell below the threshold for the instructional support domain.

Bridget Hamre, Pianta, and others have worked to better understand how teachers improve the outcomes of elementary school children both by structuring learning environments and by their interactions with the children. The concept of *responsive teacher* embodies skills that support academic as well as social learning. Responsive teachers are highly engaged with children, attuned to the needs and cues of individuals and groups. They are intentional in what and how they teach, promoting language and concept learning, and able to quickly intercede when a child loses focus. In her 2014 review of teachers’ interactions with children, Hamre pointed to the importance of daily, intentional interactions. While acknowledging the value of the CLASS in broadly measuring emotional climate, organization of the learning environment, and instructional support, it does not focus on individual children’s experience in classrooms. It assesses the frequency and quality of teacher feedback but does not address the content taught. Indeed, very few programs use evidence-based, developmentally appropriate curricula.

Classroom quality as measured by teacher–child interaction appears to be a strong predictor of school readiness. A responsive teacher is one who creates a safe and engaging environment and who focuses children’s attention on language and concept learning. Pianta and colleagues have helped define the contexts in which children best learn. Other work examines the content (or curriculum) elements related to later school success.

Developmentally Appropriate Practice and School Readiness

As the accepted definition of developmentally appropriate practice (DAP) changes to include direct instruction and assessment, the role of the teacher has shifted from one whose focus is on promoting children’s interaction with peers and materials to one who also scaffolds language, concept learning, and content-specific skills. The initial position statement on developmentally appropriate practice developed by the National Association for the Education of Young Children was heavily influenced by Piagetian ideas of learning and so, not surprisingly, emphasized teachers’ roles in providing challenging materials for children to explore and manipulate. The ideal was for children to spend relatively little time in direct instruction and more in child-initiated play experiences. The revised position statement from 2009 reflects understanding from research in child development and knowledge of educational effectiveness. It supports children’s learning through intentional teaching in all domains, including, but not restricted to, early literacy, math, and cognitive development. The role of teacher is paramount in this broadened definition of DAP.

Programs that score poorly on the measures of classroom quality may be adversely affected by some teachers’ adherence to a more child-centered philosophy and their reluctance to provide instruction with a specified scope and sequence. Some researchers suggest that teachers’ beliefs in traditional definitions of DAP might inhibit their

willingness to embed instructional support into their teaching practice. Policies that guide teaching may be at odds with what teachers and parents deem important.

A new case study of Head Start teachers suggests a possible “new normal” emerging in thinking about developmentally appropriate practice. In Allyson Dean’s (2015) recent dissertation research, the teachers in her study rely on assessment data of children and their own CLASS scores to inform their teaching practices. The children’s progress provides the mastery experiences necessary to support the teachers’ own efficacy and commitment to their own professional development. As teachers improve, children improve; as children improve, teachers improve.

As shown above, teachers’ beliefs about the role of prekindergarten and the skills necessary to demonstrate readiness are changing. Parents’ views are also changing. As public and private prekindergarten programs become more available, parents become more aware of the role of programs in promoting readiness. Beth Hatcher and colleagues conducted two studies about parents’ and teachers’ views on school readiness in 2006 and 2012. Earlier views supported a range of comparable studies in showing that teachers valued social and communication skills related to participating in a school program higher than academic skills but that parents more likely linked academic skills to school readiness. In 2012, however, parents and teachers held shared perceptions of readiness including the range of social and emotional development, the attainment of literacy skills, and comfort with school routines.

Conclusion and Future Directions for Readiness Conversations

Not since the beginning of Head Start has so much public money been spent on preschool education with a goal of ensuring school success for all children. Great strides have been made in identifying the classroom conditions linked to achievement gains, in professional development for teachers, and in creating systems to monitor

children's progress. Policy statements by both early care and education and public school organizations acknowledge the importance of relationships and classroom environment in promoting learning as well as embedding academic skills and content knowledge in developmentally appropriate curricula. Strides have been made to close the achievement gap related to the affluence of families and the language spoken at home. Gaps still persist, especially in the area of instructional support. Children of color and in lower income areas continue to attend programs of lower quality and are exposed to teaching practices that fail to create the foundation for the increased conceptual learning that will occur later in schooling. The need to systematically understand better the effects and outcomes of different preschool curricula and the role of play on both long-term and shorter term achievement continues.

While classroom-based teaching interventions are helpful, the need to link practices to individual children's outcomes and build upon the strengths that both early childhood education and K–12 education bring about with effective transitions is a necessary next step. Advocates urge that not only teachers and parents but also communities bear responsibility for school readiness. Issues such as food scarcity, housing instability, community violence, and mental health support affect children's readiness to benefit from effective schooling experiences. As such, collaboration among schools and community agencies must be supported in efforts to increase children's achievement.

Mary Ellin Logue

See also Accountability in Early Care and Education; Approaches to Learning; Classroom Assessment Scoring System; Classroom Processes; Community Partnerships; Head Start; Prekindergarten; Preschool

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Websites

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SCIENCE

Science refers to a system for acquiring knowledge, through observation, experimentation, and organization of information, a system that results in general principles and laws that describe and explain how the world works. Young children are constantly engaged in building theories about the world around them, and early childhood education can support and nurture this theory building. This entry discusses elements of science and how this relates to early childhood education, focusing on curriculum, the role of the teacher, and the role of the environment.

What Is Science?

We can think about science in terms of what we understand (content) and how we come to understand it (methods). In a very general sense of the word *science*, we are talking about learning about anything that is out there in the world.

Content of Science

The general principles and laws that describe and explain how the world works can be categorized by the focus of the study—geology, for example, refers to the study of the Earth, botany to the study of plants. We can think of the knowledge as specific in nature—vocabulary particular to the science, for example, or as conceptual—the big ideas studied by the science, big ideas that may integrate knowledge across disciplines. Young children are engaged in constructing physical and logico-mathematical knowledge (conceptual knowledge) through interactions with objects, materials, and people and can acquire social knowledge (vocabulary) in meaningful contexts.

Methods of Science

The scientific method refers to how we collect and interpret information about the world in a systematic way that can be called *theory building*, according to Christine Chaillé and Lory Britain (2003). The process of theory building includes the following elements: making predictions, formulating hypotheses, testing the hypotheses, observing the result of the testing, and verifying or modifying the theory based on this process. While some of what young children engage in may not appear to be clearly involving the scientific method, these elements are seen throughout their learning.

Views of Science in Early Childhood Education

Many in the field of early childhood education would contend that science is not given sufficient emphasis. This is based in part on the belief among many teachers that science is too abstract or conceptual for young children, as well as the

belief that teaching science requires a scientific background that many teachers in the field do not have. The lack of content knowledge among early childhood professionals, combined with a lack of understanding of science, often results in limited exposure to science education in the early years.

The exception to this involves the incorporation of animals and plants in the early childhood classroom. The study of living things is historically one curricular area that early childhood teachers have embraced. A broader base of scientific inquiry and exploration beyond biology, however, has been lacking. The position statement on early childhood science education of the National Science Teachers Association (also endorsed by the National Association for the Education of Young Children) articulates the need for such support.

Young Children as Scientific Thinkers

There is strong evidence that young children are capable of learning core ideas in science and constructing conceptual understanding in the early years, capabilities that are sometimes underestimated, according to the National Research Council. Young children's ability to engage in sustained exploration and experimentation has also been, at times, devalued; there is ample evidence that young children are capable of extended and focused work when given the opportunity and time. A number of early childhood science educators contend that young children are naturally engaged in scientific thinking. From the standpoint of Jean Piaget's theory of learning, young children are engaged from birth in constructing schemas and theories, and then applying their theories to the world around them. If we change our view of science to be what young children are naturally engaged in, then science is demystified and accessible, both to young children and to early childhood teachers.

Supporting Scientific Thinking in Young Children

There are many ways to support scientific thinking in young children, including thinking about

the role of the teacher, the role of the environment, and the role of the curriculum.

Role of the Teacher

A teacher who is interested, curious, and engaged in science provides an important model for young children. Part of this modeling is to engage in exploration of ideas, concepts, and topics that a child genuinely doesn't understand, demonstrating an authentic quest for understanding. Asking questions is key here, and modeling the tools and strategies for finding answers to questions—through experimentation, observation, or the use of resources—is an important role the teacher can play. Teachers should not be the source of information but, rather, the facilitators of children engaged in searching for answers to their own questions. This stance of the teacher as a colearner with children empowers them to construct their own theories rather than to look to the outside for answers. The image of the teacher as expert changes, which also frees the early childhood teacher who may feel uncertain about his or her own knowledge base to learn alongside children.

Teachers also serve as facilitators when children encounter interesting questions, capitalizing on the moment when, for example, the spider begins to molt, or when glasses in the window cast colorful spectra on the wall of the classroom. The teacher can also provoke such interests by purposely placing different lenses in the window for children to encounter, or by provoking interest in movement by showing a video of objects being blown by the wind.

Teachers also play an important role in providing language tools as children engage in exploration and experimentation. Although learning vocabulary should not be the primary goal of early childhood science education, teachers can authentically use scientific vocabulary in meaningful contexts. For example, when children are engaged in constructing marble rollways, discussing how the marble goes faster on a steeper incline, the teacher can use the words *velocity*, *incline*, and *force* in discussing the children's experimentation.

Role of the Environment

The environment also plays an important role in supporting young children's scientific thinking. In terms of the physical space, having opportunities in the classroom, as well as outside the classroom, for engaging in projects that may take up space and that may need to extend over time can support focused experimentation and exploration. Opportunities to engage in play outside, on a playground, or in nearby natural spaces are also desirable.

Materials and objects that are accessible to children and that can be used in multiple ways also support experimentation and exploration. Such supplies include construction materials, loose objects and manipulatives, and interesting materials, in addition to scientific "tools" used for particular explorations (e.g., observation tools such as magnifiers of different kinds). Supporting young children's scientific thinking does not take expensive and specialized tools, but can be fostered by any materials that provide opportunities for experimentation, many that are readily available in any classroom.

Role of the Curriculum

Different curriculum models provide different approaches to science education. The more teacher-directed traditional model provides structured lessons that often include demonstrations and specified actions on the part of children. Constructivist approaches, on the other hand, provide guidelines for teachers to prepare materials, provocations, and opportunities for children to engage in theory building, according to Nancy A. Branscombe and colleagues. Constructivist approaches also encourage the combination of careful planning of such experiences with the flexibility that allows for teachers to pay close attention to questions that capture children's attention and engagement. Some constructivist curriculum approaches are explicitly aligned with standards. If they are not, it is not difficult to see the connections with standards specified for young children and the kinds of constructivist explorations that would support children's scientific thinking.

Curriculum integration lends itself well to the incorporation of scientific thinking as a focus, since the big ideas underlying science can generate activities and experiences across the curriculum. Curriculum integration can encourage children's scientific thinking in all aspects of life, an important goal for early childhood educators.

In sum, early childhood educators can help to support children's scientific thinking, providing a strong foundation for later science learning as well as supporting inquiry, questioning, and curiosity throughout the curriculum.

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See also Academics and Academic Assessment in Early Education; Constructivism; Constructivist Curriculum; Early Childhood Science Experiences; Inquiry; Integrated Curriculum

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SELECTION OF FURNITURE

For an early childhood school and classroom space, furniture selection involves thinking about

the uses of space and planning for both more permanent as well as flexible places. For example, wet, dry, active, quiet, public, and private classroom zones may help define a space based on conceptual ideas such as a high drama, puppets, and large books; building materials; and climbing lofts and other more open floor spaces, where sparsely arranged furnishings made from hardwood and low shelves may be more appropriate. Entrance and exit zones where personal effects are stored, studio spaces, eating, woodworking, exploratorium, and take-apart spaces may necessitate more lasting storage shelves, tabletops, counters, and cupboards above sinks, acrylic tactile tubs, and so on. Such larger allocated zones may help to determine the types of furnishings utilized in an overall design plan.

Furniture can include new, handcrafted, and reused materials. While some new early childhood specific furnishings can offer a higher standard for durability, protections such as rounded corners (rather than sharp edges), long-lasting cleanable surfaces, and lightweight maneuverability, older custom-made and/or reused materials can offer a homelike quality and variation in architectural style and design as well as awaken whimsy, wonder, and imagination.

Further, mindful furniture selections can recall utilitarian and single-use options (i.e., always the recycling tubs and shelves area; labeled and distinctive) or variable-use and imaginative dreamscapes (i.e., can build forts or a castle or be a water play dreamland). Furniture defines flexible and/or static space into thoughtful places for young children and their families.

Designing spaces with chosen types of furnishings requires thinking about principles, values, ideals, and philosophies emitted from the space. Situating tables and chairs of varying styles and shapes invites different-size groups to enter, work, stay involved, move about, collaborate on ideas and projects, and work alone and so on. Hanging furnishings such as bulletin boards near active spaces allows for photos, narratives, and captured learning experiences to evoke memories and give credence to the learning designs and furniture style

and placement. Further, other types of hanging furnishings such as floating shelves, spice racks, bracketed ledges, and reflective surfaces allow for collections of materials, moveable picture frames, specialized materials brought down during specific moments, and so forth.

Another important consideration in selection of furnishings is size and scale. Furnishings chosen to typical children's scale invite different participation than average adult-height table and chair sets. Scaling the majority of furnishings to the everyday inhabitants is crucial for ease, comfort, and opportune learning environments. If a storage unit scales much higher than a child can reach, then offering furniture helpers such as step stools or stepladders may be desirable. A mixture of adult- and child-size furnishings is often required as teachers, parents, and other adults necessitate seating, storage, and other furnishing accommodations, as do the children. Seeking to meet the furniture needs of all community participants welcomes everyone in the classrooms and school environment and prioritizes inclusion philosophies directly in the furniture planning.

Often, color choices and styles of furniture are a valuable consideration. If the furnishings are more monochromatic (all in the same color family), then the materials stored in them may stand out visually. If a polychromatic color scheme (multiple color spectrums) is chosen for furnishings, then the room layout becomes the visible marker for the space and the stored materials and inhabitants may fall to the background. As well, the style of furnishings gives shape to the overall aesthetic and this quality speaks to the inhabitants and defines uses. As an example, if a deep shelf is selected for materials storage, then materials can be sorted more horizontally. As children select materials along a horizontal plane (imagine reaching across), they develop a relationship with the material layout in depth. Or if a tall narrow shelving unit is used to store materials (imagine reaching up or crouching down), the layout, visual cues, and material selections made offer a different process of choice making and the material layout speaks to the children differently. Thus, children come to and address the

materials differently based on the type of furniture selected.

Additional qualities to consider in furniture selection include the elements chosen that make up the furniture such as wood, metal, plastic, textiles, ceramics, and other properties. A nook with a metal bench, plastic seats, and wooden shelves suggests a different play and learning place than does a soft-pillow couch behind a hardwood square low table with pullout drawers for materials. Offering diverse tactile familiarity allows for variation in learning experiences based on the values produced from furniture selection and arrangement.

In any case, the materials selected must be cleanable, protected from easy scratches, dings, and damages. If wood surfaces are chosen, they must be veneered or safeguarded in a way to prevent lasting damage such as bacteria or blood spills from soaking into the wood permanently. Maintaining a balance between aesthetic forms and practical functions assists in aligning the teaching philosophy and everyday living experiences. As an example, placing stacking chairs next to a learning space invites a philosophy of extra participation in an activity when unstacked and used as well as allows for more open space when stacked up and put aside as desired. Form and function come together to open and shape schools and classrooms for learning and living.

Overall, selecting furniture informs and codetermines the experiences inside classrooms and schools for young children, their families, teachers, and community participants. Furniture selection and attention to details about furniture augments the learning and living atmosphere of a space and turns classrooms and schools into more mindful places of learning.

Will Parnell

See also Children's Cubbies; Early Childhood Inclusion; Healthy Environments for Social-Emotional Development; Infant Rooms; Kindergarten Environments; Learning Materials; Preschool Rooms; Primary Grade Learning Spaces; Toddler Rooms

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SELF-REGULATION

Self-regulation has been established as an important foundational skill associated with a variety of outcomes, including school readiness, academic achievement, and long-term health and educational outcomes (McClelland, Acock, Piccinin, Rhea, & Stallings, 2013; Moffitt et al., 2011). Although researchers have described self-regulation from a diverse set of perspectives, experts agree that self-regulation has important implications for health and well-being starting early in life. Self-regulation includes both top-down (executive functions, or EF) and bottom-up regulation of thoughts, feelings, and behavior (Blair & Raver, 2012). This entry focuses on the cognitive aspects of self-regulation that are rooted in self-regulation processes including attentional or cognitive flexibility, working memory, and inhibitory control.

Attentional or cognitive flexibility allows children to shift focus and pay attention to new details. Working memory allows children to remember and follow directions and helps them to plan solutions to problems, and inhibitory control helps children stop one behavior in favor of a more adaptive positive behavior. Integrating multiple aspects of self-regulation allows children to control their behavior, remember instructions, pay attention, and complete tasks in classroom settings. Moreover, this integration is important for successfully navigating early learning environments.

The Importance of Self-Regulation for School Success

A large body of research demonstrates that self-regulation significantly predicts achievement and social outcomes prior to formal schooling, throughout elementary school, and into adulthood. In contrast, children who struggle with behaviors, such as talking out of turn and failing to complete assignments, have more difficulty in classroom settings. In many studies, self-regulation significantly predicts achievement even after controlling for initial achievement levels and other background variables such as child IQ, age, ethnicity, and parent education level. In a 2013 study, a child with one standard deviation higher teacher ratings of attention and persistence at age 4 had 49% higher odds of completing college by age 25 than a child at the mean of these variables (McClelland et al., 2013). Moreover, recent evidence suggests that self-regulation is malleable and is shaped by the context in which a child lives (Schmitt, McClelland, Tominey, & Acock, 2015). Thus, promoting strong self-regulation in young children has been the focus of increasing research in recent years.

Influences on Self-Regulation

The Role of Sociodemographic Factors and Self-Regulation in Early Development

Children's self-regulation skills vary based on a number of sociodemographic factors, which include socioeconomic status, parent education level, identifying as an ethnic minority, and being an English language learner (ELL). Low socioeconomic status is related to low self-regulation on a variety of measures (e.g., caregiver report, direct assessments) and may indicate children's responses to chronic stress or to being exposed to fewer optimal learning experiences. Parent education has been documented as a key influence of children's development including self-regulation. For example, in one study, lower maternal education was related to lower scores in math, reading, and vocabulary for young children (Sektan, McClelland, Acock, & Morrison, 2010).

In the United States, ethnic minorities disproportionately experience educational disparities and poverty, according to the U.S. Census Bureau, which can result in difficulties navigating and accessing the resources necessary to promote quality early learning experiences that foster the development of self-regulation (Gándara, Maxwell-Jolly, & Driscoll, 2005; Wanless, McClelland, Tominey, & Acock, 2011). Finally, ELLs are more likely to be low income and have lower self-regulation and lower academic achievement compared with their peers. In one study, ELLs from low-income families began prekindergarten with significantly lower self-regulation and exhibited a slower rate of growth than low-income English-speaking monolingual children through kindergarten (Wanless et al., 2011).

Although sociodemographic risk can have a negative influence on children's early development, there is also evidence that strong self-regulation can serve as a protective factor and help ameliorate the negative influences associated with sociodemographic factors. In the 2010 study by Michaela Sektan, Megan McClelland, Alan Acock, and Frederick Morrison, regardless of the presence of a risk factor, children with stronger self-regulation had significantly greater academic achievement than children with weaker self-regulatory skills. Moreover, for children with the same number of risk factors, those with strong self-regulation performed better academically than children with low self-regulation. Another recent study found similar results with a sample of homeless children. Thus, even when children are exposed to considerable risk, those with stronger self-regulation have better school outcomes than those with weaker self-regulatory skills.

Parenting and Self-Regulation

A number of studies have established the essential role that parents play in the development and growth of children's self-regulation. Parenting behaviors and skills such as positive parent-child interactions, parent support and warmth, and high-quality home learning environments can

promote children's self-regulation (Bernier, Carlson, & Whipple, 2010). For example, in one study, mothers who were responsive and used lower rates of physical punishment were more likely to have children with high levels of self-regulation in middle childhood (Colman, Hardy, Albert, Raffaelli, & Crockett, 2006). Although research suggests that children experiencing multiple sociodemographic risk factors may have difficulty in academic settings, promoting self-regulation through positive parenting behaviors can ameliorate the negative influence of these factors.

Measuring and Promoting Self-Regulation

Self-regulation has become a primary focus for many researchers interested in early childhood education. This is likely due to an abundance of research documenting a direct relationship between self-regulation and academic achievement. This interest extends outside the realm of research and is now deeply embedded in class curriculum, policy, and even clinical diagnoses. Given that researchers, teachers, policy makers, and clinicians are beginning to understand the role of self-regulation within a continually broadening context of personal and academic success, it is critical that valid and reliable measures are used to assess self-regulation. In addition, classroom-based interventions in early education settings need to be implemented to promote self-regulation in young children. A sample of direct assessment, teacher-rated self-regulation measures, and classroom-based interventions is outlined below.

Direct Assessments

Head-Toes-Knees-Shoulders Task. The Head-Toes-Knees-Shoulders (HTKS) is a valid and reliable direct assessment of self-regulation that measures a confluence of attention, inhibitory control, and working memory skills in children ages 4 to 8, and has been found to be reliable in a number of diverse samples and countries. In this 30-item task, assessors outline a number of rule pairings (head-toes, knees-shoulders) and children are asked to touch the opposite of the item that is presented.

For example, when children are asked to touch their knees, a correct response is recorded if they touch their shoulders. As children advance through the task, rule pairings change and the task becomes increasingly difficult. The HTKS takes approximately 5 to 7 minutes per child to administer.

Dimensional Change Card Sort. The Dimensional Change Card Sort (DCCS) is a 24-item task that primarily focuses on attention or cognitive flexibility, one of the three components of self-regulation. In this task, assessors present children with a picture card. All cards in the deck vary on a number of dimensions, which can include (but are not limited to) size, shape, and color. Children are asked to sort picture cards on a specific dimension by sorting cards in stacks or boxes. This task is a reliable and valid measure of attention or cognitive flexibility for children ages 3 to 7 years old.

Teacher Reports

Child Behavior Rating Scale. The Child Behavior Rating Scale (CBRS) is a 32-item teacher-rated measure, of which 10 items measure self-regulation. Teachers are asked to rate a child's ability to demonstrate self-control within a classroom context by providing ratings on a Likert-type scale with responses ranging from 1 (*Never*) to 5 (*Always*). Many research studies have documented that this measure is reliable and valid in diverse samples of young children.

Classroom-Based Interventions

Although there are a number of classroom-based interventions aimed at advancing a generalized framework of knowledge for young children (i.e., math, reading), there have been few interventions developed to specifically target self-regulation skills in preschool-age children. One classroom intervention, developed by Shauna Tominey and McClelland (2011), capitalizes on an integration of music, games, and activities to advance self-regulation skills in young children. Recent studies provide evidence of the effectiveness of these intervention games, showing that children who

were randomly assigned to the classroom-based intervention significantly improved their self-regulation skills over the course of the academic school year and also showed significant gains on measures of emergent literacy and mathematics. This classroom-based intervention requires minimal training and utilizes materials that are easily available in a classroom setting.

Other interventions showing positive effects on self-regulation and academic outcomes are the Tools of the Mind classroom curricula, the Kids in Transition to School program (KITS), and Head Start REDI. Overall, the results of these studies are promising and highlight the importance of utilizing valid measures and effective self-regulation interventions to promote these skills in children at risk for school difficulty.

Conclusion

A large body of research now documents the importance of children's self-regulation for healthy development and long-term social and academic success. This is especially relevant information for early childhood educators who are on the front lines of helping children develop strong social and academic readiness skills. Unfortunately, young children facing a host of sociodemographic risk factors such as poverty and being a low-income ELL are more likely to experience difficulty with self-regulation. However, there is also evidence that strong self-regulation can serve as a buffer or protective factor for children growing up in the context of risk. Using reliable and valid measures is critical to identifying children who may need additional help with self-regulation in the early years. Finally, a growing body of evidence suggests that interventions designed to promote self-regulation can effectively improve these skills with significant effects also found for improved academic outcomes. Thus, early childhood teachers and policy makers can use this information to promote healthy development in children from a diverse set of backgrounds.

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Guadalupe Diaz, and Karley Lewis

See also Head Start; Mothers; Parenting Effects on Child Development; Parenting Support and Education; Social Class Effects on Development and Learning; Social Skills and School Success; Tools of the Mind

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SENSORY DEVELOPMENT

Sensory development refers to the maturing and advancement of the visual, auditory, gustatory, olfactory, and tactile senses, which begins in utero. Sensory development includes sensory integration, the receiving of input from the senses then responding appropriately. With the exception of sight, most of our senses are fairly well developed at the time of birth, as development begins in utero. The input from the senses is crucial, as they allow newborns to learn about the environment. The intensity of responses and attention to each sensory modality is unique to each individual. During the first months of life, the senses work together dynamically to learn about the world. This entry focuses on the typical development and characteristics of the five senses and how they are linked to one another.

Each sensory system is composed of receptors, neural relays that send information to the neocortex, and the representations within the neocortex. The sensory systems are diverse and may seem unconnected; however, they are organized in a similar way in the brain. Sensory receptors convert, or transduce, sensory energy into neural activity for each sense. Each sense is specialized for a specific

type of energy with different types of sensory receptors. External stimuli are responded to by exteroceptive receptors while interoceptive receptors respond to internal stimuli. In order to sense something, the energy that comes into each sensory organ is changed into action potentials. Each sensory organ has a receptive field, a part of the environment it responds to, and a response to identify change and consistency. The sensitivity of a sensory modality is determined by the receptive density. For example, there are more receptors in our fingers than our arms.

Tactile Sense

Tactile or touch refers to bodily sensations perceived through the somatosensory system that activates the mechanoreceptors, or cells that are extremely receptive to sensations like touch or pain. Pain is perceived when somatosensory receptors create action potentials and then tissue damage sends out chemicals to the brain to activate pain fibers as described by Bryan Kolb and Ian Whishaw (2009). The tactile sense is the most developed at birth. Matthew Hertenstein found that touch is crucial to the infant's overall well-being, as infants who are not held or touched can develop severe physical and cognitive issues. Additionally, tactile sensations have the remarkable power to communicate many emotions to children, including positive, negative, and discrete emotions, and convey very specific information to a child, such as the identity of a person holding him or her (Hertenstein, 2002).

Touch can positively influence outcomes, especially in premature infants. For example, in a study published in 2009, Smriti Arora found that premature infants who experience touch therapy are able to improve overall health and well-being. Kangaroo care is a specific form of massage therapy, which involves skin-to-skin contact between caregiver and infant that can regulate breathing and the heart rate, the results of which have inspired many hospitals in the United States to adopt similar methods. Several studies have demonstrated how massage reduces

stress in premature infants during their hospitalization including one by Maria Hernandez-Reif, Miguel Diego, and Tiffany Field in 2007. Another study by Field, Hernandez-Reif, and Julia Freedman in 2004 showed that when mothers were taught to massage their infants before bedtime, this process led to improvements in their weight, mood, and sleep.

Auditory Sense

Newborns are born equipped to process sounds and learn speech and language through the auditory modality. Audition occurs when air pressure waves turn into mechanical energy, which then activates auditory receptors, producing action potentials that are used to create perceptual representations as described by Kolb and Whishaw in 2009. There are two forms of interpreting pressure waves. Sound localization is the identification of the source of waves and echo localization is identification of waves reflected from objects.

An infant's sense of hearing is fairly well developed at birth as auditory developmental processes begin in the third trimester. Barbara Kisilevsky and colleagues found that infants become accustomed to hearing sounds from the outside world in the womb, such as a mother's heartbeat, stomach digesting, cough or sneeze, and voice (Kisilevsky et al., 2009). Infants remember the voices of their primary caregivers after birth and show preferences for them. A classic study by Anthony DeCasper and Melanie Spence in 1986 showed that newborns not only recognize their mothers' voices but remember the book that was read to them by their mothers during the last month of pregnancy.

Robin Cooper and Richard N. Aslin (1990) have shown that infants respond better to high-pitched and somewhat drawn out, exaggerated voices or infant-directed speech, because along with immature hearing abilities, the ear contains leftover amniotic fluid, slightly impairing hearing. Infants are able to focus when being spoken to in calm, sweet, and engaging tones that are pleasing to their sensitive developing ear. Though coordination is still developing, infants can turn to where a

sound is coming from as their hearing advances, becoming more refined.

Olfactory Sense

Olfaction occurs when chemical molecules carried by the air or contained in food fit themselves into epithelium receptors of the nose and carried directly to the limbic system in the brain allowing us to distinguish as many as 10,000 different odors (Kolb & Whishaw, 2009). The development of smell begins in utero and matures by the end of the first trimester. Amniotic fluid that surrounds the fetus takes on the odors of foods consumed by the mother leading to similar smell and taste preferences in the child which provides the first understanding of the culture he or she will inherit at birth as researched by Julie Mennella (2009). Mennella (2008) also noted that after birth, newborns are sensitive to the smell of amniotic fluid and breast milk; which provides a reference for the infant of foods that are safe for consumption. In fact in 1975, Aidan Macfarlane found that infants as young as six days are able to tell the difference between their mother's and another mother's milk. Newborns use their sense of smell to find their mothers and communicate when hungry. They respond to the scent of their mother's breast milk by making movements with their mouths and seem anxious to be fed, as found in research by researchers such as Katsumi Mizuno and colleagues in a 2004 study and Heili Varendi and Richard Porter in a 2001 study.

Infants show a preference for sweet smells compared with sour, bitter, or unpleasant smells through their expressions, which is the easiest way to determine whether an infant likes a smell according to Jacob Steiner (1979). It is also worth noting that there exists a "prime time" for introducing smells to a newborn. A 2007 study by Olga Romantshik, Porter, and Varendi found that when infants were tested on the ability to recognize an odor presented within 12 hours after birth a few days later, only newborns that had been presented with the odor immediately after birth were able to recognize the scent. Smells create memories and associations that influence preferences later on.

Gustatory Sense

Gustatory senses engage in a complex interaction of taste, temperature (hot and cold), texture, and smell influencing the sense of taste. Taste, smell, and trigeminal nerve stimulation determine the flavor of what we eat. Chemical molecules are either carried in the air or stored in food, and saliva helps dissolve food, which reacts with taste receptors buried around taste buds on the tongue. Taste buds begin to develop before birth as noted in a summary by Richard Doty and Muhammad Shah in 2008 and mature as the baby tastes what the mother consumes through the amniotic fluid (Mennella, 2009). This leads to taste preferences similar to those of the mother, especially if she breastfeeds after birth. The five primary tastes are sweet, salty, bitter, sour, and umami. Newborns appear to sense all of these tastes with the exception of salt, which they are unable to sense for the first few months of life (Doty & Shah, 2008). Newborns prefer foods that are sweet, observed in their preference for breast milk, and continue to develop preferences for foods similar to those ingested by the mother during pregnancy.

Early experiences with flavors influence later food preferences as Mennella found in several studies she conducted. In 1997, Mennella and Gary Beauchamp found that mothers who drank carrot juice during pregnancy or while breastfeeding had infants who displayed fewer negative facial expressions while eating a carrot-flavored cereal. Furthermore another study published in 2006 by Mennella, Janice Kennedy, and Beauchamp found that infants who are fed a hydrolysate formula consume more broccoli and cauliflower than those fed a milk-based formula. This and other research supports the importance of exposing infants to a variety of flavors prenatally and later through breastfeeding because it is linked to flavor acceptance in childhood.

Visual Sense

A child's development is heavily affected by the way vision develops. However, vision is the least developed sense at birth and is vastly different

from the sense of vision in an adult. The ability to see occurs when the cornea bends light as it enters the eye then light moves to the lens and is bent further to create a visual image on receptors at the back of the eye so it is perceived, as explained by Kolb and Whishaw (2009). Although a child can be born with very healthy eyes and proper connections, the eyes need time and stimulation to become fully developed.

At birth, vision is limited to the distance from the infant's face to the eyes of a person who is holding him or her, or about 8 to 10 inches according to Martin Banks (1980). In Robert Fantz's 1963 study, he found that infants prefer looking at the human face and have the ability to determine the outline of a person's face. Around 1 month of age, the infant's accommodation is similar to that of adults (Tondel & Candy, 2008). Eye movements are not well coordinated in the beginning and need time for eye muscles to strengthen and mature in order to focus on things farther away. Young children also have more difficulty scanning and attending to objects, people, and other resources to gather information. In a 1968 study by Eliane Vurpillot, a group of children were shown pictures of houses and asked to determine similarities and differences between them. The reflection in the children's eyes was filmed as they attended to the pictures. By tracking the eye movements, he found that children under 6 years of age had unsatisfactory answers because they looked only at portions of the pictures and did not look long enough at the pictures.

Infants also have limited color vision in the beginning, which improves over time. Around 2 months, infants are able to distinguish some colors (Kelly, Borchert, & Teller, 1997). In 1963, Fantz published a study revealing that once babies have developed color vision, they enjoy bright colors, high-contrasting patterns, and movements the most.

Other Senses

The proprioceptive, vestibular, and visceral senses are less often mentioned but just as important. Proprioceptive sensations are caused by contraction and stretching of muscles and the bending, pulling, straightening, and compression of the

joints between the bones. Input to the brain is unconscious to us; therefore we are not aware of these sensations. Vestibular senses perceive gravity and movement. These are sensed through the labyrinth in the inner ear. As we move, tiny carbonate crystal receptors are attached to hairlike neurons that send information about gravity to the brain stem. Another vestibular sense is movement. As the head changes direction in any direction, information is sent to vestibular nuclei and reports changes in movement through the semicircular canals in the ears. Input is received in the brain stem, which is coordinated with other senses. These senses begin developing early in prenatal development and are well developed by birth. The visceral sense provides information about blood flow, blood chemicals, and activity to the autonomic nervous system that helps regulate blood pressure, heart rate, digestion, and other functions.

Issues With Sensory Development

On a final note, one should not view each sense in isolation. An issue with one sense can lead to complications with others, as well as affect the child's overall health and well-being. For example, a child's inability to hear may delay his language abilities and impair interactions and relationships with others. Thus, it is crucial for caregivers to understand how each sensory system develops to ensure optimal overall development. Many who work with young children find it challenging to figure out what a child is thinking. However, if one just stops and closely observes the child's behavioral responses to touch, sound, light, smell, and taste, this task will likely prove to be far less of a challenge.

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See also Sensory Integration

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SENSORY INTEGRATION

As first described by A. Jean Ayres (1989), sensory integration is defined as “the neurological process that organizes sensation from one's own body and from the environment and makes it possible to use the body effectively within the environment” (p. 5). It is this process that enables us to make sense of our world by receiving, registering, modulating, and interpreting information that comes to our brains from our senses. Ayres is known as a pioneer in the development of sensory

integration theory as an approach for occupational therapists to use in treatment. She approached sensory integration with a neurobiologic model and linked the neuropsychological processes to abilities and observed behaviors. As with all theories, sensory integration has a set of assumptions underlying it that propose to explain observed phenomena.

Sensory integration explains the way the sensory systems are organized for use. According to Ayres, “Sensory integration includes perception, modulation, and integration of sensory information as a foundation for participation in activities across social, physical, learning, and daily living tasks” (Schaaf et al., 2014, p. 149). Since these systems do not develop independently, understanding how they are organized and integrated is important, because together they form the underlying foundation for learning. Sensory integration is an unconscious process that occurs in the brain. It includes organization of the senses and helps us understand what we are experiencing and pay attention to what is important. Sensory integration also allows us to respond appropriately and purposefully and is the foundation for learning and social behavior.

Levels of Sensation

There are three levels of sensation that help us to understand ourselves and our surroundings. The first level is the exteroceptors, which are sensations that come into the body through the major sensory systems and include visual, auditory, gustatory, olfactory, and tactile senses. Next, the proprioceptors provide information about where our body is in space and how it is moving and include the vestibular and proprioceptive senses. Vestibular senses help with balance, gravity, and head movement while proprioceptive sensations help with position and movement. In 2014, Chia-Ting Su and L. Diane Parham further suggested that the association between the vestibular and proprioceptive systems is so strong that they could be interpreted as a single system. Finally, the visceral sense provides information about the inside of the body, according to Ayres.

Levels of Development

Ayres further hypothesized that there are four levels in the development of sensory integration. The first level is the stimulation of the senses and includes the senses such as auditory, vestibular, proprioceptive, tactile, and visual. The senses take in information about the environment and are developing as the infant learns how to use each to perform certain functions, such as feeding. The next three levels are the integration of the input of the senses into higher order functions going from more basic tasks, like eye movements and posture in stage two to coordination of the two sides of the body in stage three to eye-hand coordination in stage four. Sensory integration development is a fluid process. The fourth level pulls together all the learning in the previous levels involving the whole brain leading to end products such as the ability to concentrate and organize, engage in critical thinking, and have self-esteem and self-control.

These levels are forming as the child develops from infancy, where primary development of level one occurs, to age 6, where most work is done at the last level. This development is fluid. For instance, an infant is learning about his body in space and what each touch means while a toddler is integrating the sensations at both the primary and second levels with some focus on the third level of integration. By age 6, the primary level is done (understanding sensations), and much of the focus is on the final level (integrating sensory information in more purposeful activities and engaging the whole brain), though there is still some work on the second and third levels. Children work on the same things over and over though in different tasks relevant to their developmental age. A child transitions from sensing things visually (first level), to eye movements (second level), to attending to a sensation and motor planning (third level), to, finally, coordinating eyes and hand movements and grasping items (last level). According to H. M. Leong, Jennifer Stephenson, and Mark Carter (2014), the development of effective sensory integration leads to stronger critical thinking in academic areas

along with improved fine and gross motor coordination.

Sensory Integration Dysfunction

Ayres posited that some children have impairments in sensory integration that manifest as difficulties observed in purposeful behaviors. The term *dysfunction* is used to describe a problem or malfunction in integration that can potentially be reversed. It does not imply a complete lack or absence of function, according to Ayres. Utilizing factor analyses combined with standardized measures of sensory integrative dysfunction, Ayres was able to identify and confirm patterns in the deficits. A dysfunction in sensory integration may explain why some children have trouble learning new skills, regulating their attention, participating in school or play activities, and engaging in positive social experiences. For example, one child may sense a person's speech as overwhelming and aversive while another may not sense the speech at all at a typical auditory level. Some sensory integration dysfunctions include developmental dyspraxia, visual perception, visual discrimination, form and space perception, visual-motor functions, tactile defensiveness, vestibular and postural deficits, and deficits in auditory and language functions. Children with autism have special sensory integration needs and challenges.

Ayres, and many who have followed her, have worked to establish the validity of this theory through clinical and basic science research, for example, by Leonard F. Koziol, Deborah Ely Budding, and Dana Chidekel; Zoe Mailloux and Heather Miller-Kuhaneck; and Teresa A. May-Benson and colleagues. Over the decades, researchers and clinicians have explored different ideas and treatment strategies with regard to sensory integration. As the concept of sensory integration has evolved, terminology used to describe these differing perspectives has emerged, and a large portion of the studies published on sensory integration have had methodological flaws or minimal to no reports on fidelity, according to the American Occupational Therapy Association (AOTA) and Mailloux and Miller-Kuhaneck.

To clearly distinguish the program of therapy developed by Ayres, the Franklin B. Baker/A. Jean Ayres Baker Trust trademarked the term *Ayres Sensory Integration*. Susanne Smith Roley and colleagues suggest that the use of this term indicates observance of the core principles of Ayres's original theoretical framework, distinguishing it from other theories of sensory integration. Terminology specific to the Ayres trademark includes (a) sensory-based strategies, (b) sensory integration, (c) sensory processing, (d) sensory processing deficits, and (e) adaptive response.

Another individual who has made significant contributions to the understanding of sensory processing and related developmental issues is Winnie Dunn. In 1997, Dunn first proposed the Quadrant Model of Sensory Processing that uses two criteria: (1) response type and (2) sensory threshold to stimuli. Dunn's (1997, 2007) model of sensory processing was developed in the field of occupational and educational counseling. She proposed that four sensory processing patterns characterize the perceptual process. These patterns are thought to arise from individual differences in neurological thresholds for stimulation (high versus low) and self-regulation strategies (active versus passive). Crossing these dimensions provides four sensory processing styles.

Individuals with *low registration* have a high threshold with a passive response. A child with this processing style needs a lot of stimulation but does little to meet that need. *Sensory sensitivity* is a low threshold with a passive response. Children with this processing issue need very little stimulation, becoming overstimulated easily; however, they are not able to react accordingly to help themselves. The child will often have a tantrum or poor behavioral control after an overstimulating event but may show few behavior issues during the event. *Sensation seeking* individuals have a high threshold with an active response. A child who is a sensation seeker will try to fulfill a sensory need. He or she might eat grapefruit or spicy foods to meet a sensory need for flavor, chew on a pumice stone for texture, or lift heavy items before engaging in less stimulating activities.

Finally, *sensation avoiding* children have a low threshold with an active response; therefore, they need little stimulation for a sense to be overwhelmed. A child might leave the room when dinner smells become overwhelming.

It is important to recognize sensory processing may not be the same for each sense. Dunn and colleagues proposed that understanding interactions between neurological and behavioral concepts could help therapists interpret young children's behavior in order to help them function within their environments.

Identifying Sensory Integrative Dysfunction

To identify a sensory integrative dysfunction, occupational therapists must utilize a number of tools and methods such as standardized assessments (e.g., the Sensory Integration and Praxis Tests; Ayres, 1989) and through indirect measures such as parent- or teacher-completed questionnaires. It is important that therapists are able to discriminate differences across and among children; just because a child has a problem with sensory integration in one area/level does not mean he or she will have difficulty in another. Furthermore, according to Dunn, sensory integration dysfunction can present itself in very different ways across children according to age, which sensory systems are involved in a task, or even the child's capacity for that day (e.g., rested or tired).

Some examples of sensory integrative dysfunction include the following. Infants displaying sensory integration difficulties may not roll over, sit, or stand at expected times for these developmental milestones. If a child falls into the sensation avoiding pattern, based on Dunn's model, then he or she will tend to withdraw from situations quickly that are overstimulating, such as peripheral sounds and lights found in daily activities. Children with sensitivity may also be irritable, short-tempered, or even demanding, as they may not have good self-regulation, according to Dunn, and the brain may not be "processing or organizing the flow of sensory impulses in a manner that gives the

individual good, precise information about himself or his world” (Ayres, 2005, p. 47).

Sensory Integration Therapy

Most of the practitioners who use sensory integration therapy are occupational therapists and, as such, the goals of intervention are aimed at enhancing a child’s ability to participate in daily occupations that are meaningful and satisfying for that child in a natural context. The route to achieving that goal is individually defined, but can be broadly categorized as aiming either to remediate underlying impairments or to enable participation through accommodation and adaptation, essentially two different roads to one place.

Sensory integration therapy (SIT) was originally developed by Ayres, and this form of therapy is sometimes referred to as classical SIT or now, according to the trademark, as Ayres Sensory Integration therapy. This treatment approach aims to provide the child with various sensory experiences. These experiences are matched during therapy with a “just right” challenge, and activity that requires the child to give an adaptive response. SIT is an active therapy. The child must be motivated and engaged in the choice of activities; hence, play is the medium of choice. Activities usually involve large pieces of equipment such as balls, trampolines, and suspended equipment that provide intense proprioceptive, vestibular, and tactile experiences. The child is encouraged to explore equipment and the therapist sets up activities and the environment to challenge the child to use sensory input to organize an adaptive response. It typically involves one-to-one direct intervention in an environment that has a variety of specialized equipment.

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See also Autism Spectrum Disorder; Sensory Development

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SETTING INFLUENCES ON CHILD DEVELOPMENT

Setting influences refers to the impacts of the physical environment (including toxins and pollutants, noise, crowding, chaos, housing quality, school and child care quality, and neighborhood quality) on children's development and well-being. In this entry, the impact of each of these factors is discussed. Much of the current evidence comes from research in the United States and Western Europe. Where possible, research evidence in other contexts is discussed. Where the research is limited, recommendations for future research are outlined.

To better frame known and recommended future research and practice, a holistic, multidisciplinary, and multilevel approach based on Urie Bronfenbrenner's bioecological model is discussed. Recommendations for more extensive research in the Global South (countries with a low to medium Human Development Index score) and the provision of space and time to play in indoor and natural outdoor settings are outlined. This approach is intended as a way to better understand and reduce the aversive effects of multiple environmental risks on the development and well-being of children across the globe.

The Physical Environment and Child Development

There is mounting evidence, particularly in North America and Western Europe, documenting significant impacts of the physical environment on child development. There is also a growing body of research documenting such impacts on children growing up in varying contexts around the globe, with the strongest evidence coming from middle-income, newly industrialized countries. Key physical environment factors include exposure to toxins and pollutants (heavy metals, pesticides, air and water pollution), noise, crowding, chaos, housing quality, school and child care quality, and neighborhood quality. Unfortunately, particularly in low-income homes, schools, and neighborhoods,

the impacts of individual aspects of the physical environment are unclear, since multiple environmental risks tend to be correlated.

In addition, little is known about the interaction of multiple risks on development, although these impacts appear to be cumulative. To further study the impacts of the physical environment on child development and develop effective interventions to improve the physical environment experienced by children, it is essential to develop a conceptual framework that captures the complex interrelations between multiple physical environmental factors operating at multiple levels. Bronfenbrenner's bioecological model serves such a purpose.

Theoretical Approaches

Bronfenbrenner's bioecological model outlines four interacting dimensions: (1) process, (2) person, (3) context, and (4) time (PPCT). *Process* denotes exchanges of energy between an individual and his or her environment over time. Enduring, progressively more complex reciprocal interactions between persons and their immediate environments, or *proximal processes*, are the "engines of development." The impact of proximal processes on development varies as a function of characteristics of the developing *person* (e.g., self-esteem, gender) over *time* (e.g., daily book reading with a caregiver in the first 3 years). Finally, development occurs within four nested and interacting levels of context: (1) the microsystem (including physical settings directly experienced by the child, e.g., books available at school), (2) the mesosystem (connections between microsystems, e.g., access to books at home and at school), (3) the exosystem (settings that influence the child, although the child isn't directly exposed to them, e.g., the distance between a parent's workplace and home), and (4) the macrosystem (overarching interactions between micro-, meso-, and exosystems, e.g., government policies regulating noise levels). Many of the known physical environment factors impacting child development operate at the microsystem level, with some (e.g., noise, crowding, chaos) functioning by interrupting proximal processes, while others might better

support these processes (e.g., availability of books at home and at school). Much less is known about the impacts of physical environment factors operating at other levels. Further work needs to be done in these areas.

Key Setting Influences

Toxins and Pollutants

Exposure to lead and mercury from the prenatal period through adolescence impacts children's attention, learning, and behavior. Prenatal exposure to polychlorinated biphenyls (PCBs) impacts later cognitive and social-emotional functioning. Direct and indirect (through parents' clothing) exposure to pesticides used in agricultural production has similar effects. Unfortunately, there is limited regulation of many of these toxins and other soil, air (e.g., nitrogen dioxide from traffic fumes and environmental tobacco smoke), and water (e.g., arsenic and manganese) pollutants in newly industrialized countries and in the Global South. For instance, lead paint is still used in the production of toys and other household products in China. Even when these compounds have been regulated for many years, as is the case for lead in the United States, they remain in the ecosystem for a long time. For example, lead is found in the soil, paint, and plumbing of older houses and schools. Finally, water sanitation and waste management are particularly salient for children's development in the Global South and in low-income settings across the globe. Waterborne diseases significantly impact cognitive development and school performance, both directly and as a result of malnutrition derived from exposure to bacteria-contaminated water. In addition, illness and malnutrition lead to increased absences from school and problems paying attention in school. The need to walk long distances to obtain clean water may impact girls' school attendance in particular.

Noise

Early and chronic noise exposure significantly impacts children's reading acquisition in the Global

North, perhaps by impacting the development of long-term memory, attentional strategies, and speech perception. Some research documents similar impacts in the Global South. In addition, children exposed to noise both at home and at school have worse reading outcomes. In noisy homes and schools parents and teachers may talk and read less to children, and be generally less responsive, perhaps as a result of fatigue and the physiological stress associated with chronic exposure to unpredictable and uncontrollable noise. Repeated, unpredictable, and uncontrollable noise undermines the motivation needed for academic achievement, in both the short and long term.

Crowding

Despite differences in perceived tolerance for crowding across different cultural contexts, there is significant evidence from multiple contexts documenting the impacts of crowded homes and schools on cognitive and behavioral development, school achievement, and reading comprehension across the life span. In infancy and early childhood, crowding disrupts children's exploration, play, and interactions with people and objects. In addition, residential crowding may disrupt parent-child interactions: Parents in crowded homes talk less and in less complicated ways with their children. Residential crowding may also reduce children's ability to complete homework, reduce parental monitoring, reduce parental responsiveness, increase family conflict, and increase parental and child withdrawal from interaction. Children in crowded homes and schools also show higher levels of aggressive behaviors at home and school, and their parents are more likely to use physical discipline. Increased levels of physiological stress in crowded homes and schools may partially explain these outcomes, particularly for low-income children.

Chaos

Chaos (noise, crowding, and other factors interrupting structures and routines) significantly impacts cognitive and social-emotional

development, perhaps due to a disruption of the proximal processes (regular, sustained exchanges of energy between children and people and objects in their immediate settings) that drive development. For example, parents in chaotic homes may provide fewer opportunities for learning and be less responsive.

Residential mobility resulting from a lack of legal tenure may lead to an ongoing disruption of daily routines for children, thus significantly impacting their academic achievement and social-emotional well-being. Children living in informal housing, particularly in the Global South, are much less likely to attend school.

Housing Quality

There is limited research on the impacts of specific aspects of housing quality on children's development, particularly in the Global South. However, substandard housing significantly impacts children's cognitive and social-emotional development, perhaps because children are exposed to higher levels of lead and other toxins, air pollutants, and pests. In addition, their parents experience higher levels of stress, thus potentially leading to reduced warmth and responsiveness. In environments that are unsafe, caregivers constrain play. Space and furnishings, such as room arrangement and displays for children, may be moderators for the negative impacts of crowding. Access to books, learning materials, and other resources such as electricity, a radio, a television, and a telephone at home may also impact cognitive and social-emotional development, with access to play materials being particularly important.

School and Child Care Quality

School quality clearly impacts children's school achievement, although specific individual effects are less well understood. School and classroom size have salient impacts on children's academic achievement across multiple contexts, and there is growing evidence for impacts of the quality of building infrastructure (including lighting, access to electricity and water, structural quality, indoor climate,

and sanitation) and access to resources (textbooks and books, desks and chairs, blackboards, technology, and school libraries). Children attending poorly maintained schools are exposed to mold and other allergens that lead to asthma, allergies, and upper respiratory infections, and thus school absenteeism. In addition, a poorly maintained school building may signal to students that not only are building standards low but so are academic standards. Thus, student achievement suffers.

In North America and Europe, there is some evidence that open plan classrooms are noisier and thus distracting for children. However, classroom organization can counter some of these impacts with separate activity areas and secluded, cozy areas for children in early childhood environments. School settings also impact teachers' well-being and responsiveness, as well as satisfaction and thus retention.

Neighborhood Quality

As with home and school quality, it is difficult to parse out the impacts of individual components of the physical environment of neighborhoods. However, the vast majority of children growing up in the Global South live in neighborhoods with high levels of air and water pollutants, poor sanitation, high levels of street traffic (thus leading to noise and safety concerns), poor street lighting, and very limited access to schools, hospitals, grocery stores, and open green and other play spaces.

The Physical Environment and Play

When asked, children growing up in diverse urban contexts around the world are particularly aware of a lack of access to green play spaces. There is a growing literature documenting the impacts of play, particularly play in natural settings, on children's academic achievement, social-emotional well-being, and physical health. Children engage in more complex play in natural settings at home and at school, and there is some evidence that proximity to such settings enhances well-being and reduces the impacts of crowding, noise, chaos, and stressful life events on both children and the adults who care for them.

Future Directions

The physical environment experienced by children impacts their development and well-being from the prenatal period through adolescence. Thus, the development of effective interventions to improve the physical environments experienced by children is essential. However, given the multiple impacts of multiple components of the physical environment, it is important to identify key influencing factors. During early childhood, factors contributing to chaos (including noise, crowding, and residential mobility) in home, school, and neighborhood environments may have particularly salient impacts on children's development and well-being as they interfere with effective proximal processes, operate across multiple levels, and impact both children and the adults who care for them. Access to natural settings, especially open green spaces for play, may counter the impacts of chaos. Community adventure play experiences, temporary play spaces within children's own communities that engage them in interactive play with recycled and natural materials, are a particularly low-cost and sustainable approach to increasing opportunities for children's play in low-resource settings.

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See also Bioecological Theory; Child Development and Early Childhood Education; Learning Materials; Outdoor Play Spaces; Social-Emotional Development

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SEXUALITY DEVELOPMENT

Sexuality development in young children refers to multiple developmental processes that are connected to knowing about one's body, physiological responses, gender identity, and respectful relationships. Kent Chrisman and Donna Couchenour have elucidated ways that children's healthy sexuality development is related to physical, cognitive, social, and emotional development. Each of the developmental processes is involved in young children's healthy sexuality development as sexuality is viewed as an aspect of being human, and not just as sexual activity.

Physical Development and Behaviors. It is natural for young children to express interest in their bodies and to explore their body parts, including genitalia. Over time, they gain control of their bodily functions, including large and small muscles and those involved with elimination. Children make adjustments in their physical behaviors as their bodies change as they get older.

Cognitive Development and Behavior. Children express curiosity about their own bodies and those of others. They learn about bodies the same way that they learn about everything else, through experience and interactions with their world. As young children are able to identify themselves as boys or girls, they also become aware of gender identification of other children and adults. As they gain experience in their families and communities, children become curious about human biological systems, including reproduction.

Social Development and Behavior. Healthy sexuality development is dependent on social interactions that are required for all aspects of children's optimal growth. Young children who are responsively nurtured are given the necessary basis for their lifelong sexuality development. Such nurturance also paves the way for positive relationships with peers and other adults and assists children with their ability to understand and respond to behavioral limits set by caring adults. An understanding of moral judgments considering differences between right and wrong is also associated with early trusting relationships. Young children observe and begin to practice traditional gender roles from their own cultures and experiences.

Emotional Development and Behavior. The self-esteem of young children is established in multiple ways with nurturing adults setting the stage for positive feelings about the self. Children with positive self-esteem are able to express affection and caring for others, to demonstrate respect, and to empathize with others' feelings and viewpoints. Over time and with supportive interactions, young children learn to manage emotions such as joy, sadness, and anger in ways that are appropriate and expected.

Sexuality Development Differs for Children and Adults

A discussion of young children's healthy sexuality development differs from an understanding of adult sexuality in several ways. It is critical for those who parent or teach young children to understand that children's curiosity and interest in sexual-themed topics and behaviors is in itself not a reason for apprehension, but a reflection of both their humanness and their experiences. Fred Rothbaum, Avery Grauer, and David Rubin explain three key distinctions:

1. Children are curious and playful whereas adults have sexual knowledge and are responsible for their related decisions and behavior. It is not unusual for young children to touch their own

genitals in a public place or to ask a question about pregnancy loudly, such as, “Mama, why is that lady’s belly so fat?” Healthy adults would not be likely to have similar behaviors.

2. When it comes to sexual topics or behaviors, children are as spontaneous and open as they are about any other topic whereas adults engaging in healthy sexual behavior are deliberate and private. Toddlers who are curious about their bodies may not understand that shedding their clothes in a living room with visitors present is not preferred behavior. Privacy is key for healthy adult sexual responses.

3. Young children typically find the topic of sexuality attractive and at the same time repelling. Although it is common for them to imitate the sexuality of adult models that they see in their families or in the media, they do not possess the eroticism of adults due to both levels of understanding and biological differences. Preschool or kindergarten teachers may observe children holding hands, kissing their “boyfriends” or “girlfriends,” and making declarations about who they will marry, but these behaviors have the innocence of childhood integrated into models from adults in their world. Adult meanings for significant others and marriage often have an element of eroticism based in part on mature biological systems.

Developmental Expectations Through the Early Childhood Years

Behavior and understanding related to healthy sexual development in young children varies based on age and experience. This section explains typical expectations for infants and toddlers (birth to 3 years), preschoolers (3 to 5 years), and kindergarten and primary grade children (5 to 8 years).

As infants explore all aspects of their environment, many caregivers delight as babies “find” their fingers and toes. When babies explore their genitals during a diaper change, adults are less enchanted. Adults who understand that this is typical behavior that is pleasurable to very young children may see that this is one of the important

differences between adult and child sexuality. Infants and toddlers begin to have either positive or negative approaches to their own bodies. Adults who engage in supportive interactions during diapering and pottyng explain what is happening and help to keep children comfortable. Although cultural, familial, and individual variations exist in terms of gender identity, children at this early age develop preferences based on their biological and environmental experiences. Adults who respect infant and toddler developing preferences rather than correcting them to fit into narrow definitions of male and female will find that this respect leads to a child’s positive self-esteem, an essential characteristic for all healthy development.

Preschoolers continue to increase their awareness and curiosity about their own bodies, differences in bodies, and gender identification. Just as caring adults support children’s curiosity about other aspects of their world, adults who support curiosity about bodies in authentic and sensitive ways contribute to children’s healthy sexuality development. Inquisitiveness at this age extends to children wondering where they came from and some aspects of reproduction. Adults who respond with concise and truthful answers confirm children’s interest in human biology. Sometimes troubling to caregivers, preschoolers often masturbate and engage in sex play with peers. Teaching children that touching genitals is private behavior will help them to begin to increase self-control. Reducing children’s boredom and stress is also key to this concern.

Close supervision of preschoolers is necessary for many safety reasons, including inappropriate touching of others. Children at this age have a rapidly growing vocabulary and high interest in new words, including those deemed as cursing. In order to reduce this tendency, adults must model expected language and apply positive guidance such as providing alternative words. Along with having an increasing vocabulary, preschoolers have an affinity for “bathroom humor.” Nothing is funnier than calling something “poopy.” An understanding that children find this to be funny

helps adults to not overreact, but to apply positive guidance techniques including ignoring the phrasing at times.

In relation to gender identity, preschoolers create firm beliefs about whether they are male or female. Generally, this belief is consistent with their biology. However, adult responses may be confusing to young children who are biologically female and identify as male or who are biologically male and identify as female children; the children may not understand why the adult responds to them as male when they identify as female, or vice versa. Research is ongoing in the areas of gender identity disorder and transgender identification. Stephanie Brill and Rachel Pepper point to neurodevelopmental rather than environmental associations for children who are biologically one sex and identify with the other. At present, the best advice for parents and teachers is to support children's interests as they are as interventions will not be successful and are most likely to be harmful. As with all individual differences in young children, responsive caregiving and acceptance of individual interests leads to optimal development.

Kindergarten and primary grades children continue some of the same behaviors and attitudes of preschoolers. Sex play and masturbation are expected behaviors, but caring adults must intervene to teach children that it is not acceptable to touch other children's genitals and that touching one's own genitals is private behavior. Much of 5-through 8-year-olds, social behavior is focused on their gender identity: engaging in somewhat rigid gender roles, stereotypical play and activities, and strong same-sex friendships. Just as with younger children who may identify as transgender, kindergarten and primary age children are likely to favor gender identity in their friendships and activities. New social behaviors during this developmental period that are likely to be observed are teasing, name-calling, and bullying. Families and teachers of young children must be keenly aware and plan to explicitly teach children about the harmful effects of such behavior. Developmentally, children at this age are able to learn about these effects but may not understand or empathize on their own accord.

Roles of Families and Schools

Parents are children's primary educators about sexuality and gender. Much of children's early learning about their bodies, femininity and masculinity, and limits on behavior happen in family settings. As children's first teachers and primary attachments, adults who are parenting young children have responsibility for their early understanding of sexuality. However, many parents either do not consider this a topic for parenting young children or are uncomfortable thinking about a life span view of human sexuality. For this reason, schools and communities have a role in supporting families as well as providing care and education for young children.

Chrisman and Couchenour found in focus group research that many teachers of young children often experience classroom dilemmas related to children's interest in bodies and reproduction but have not had formal preparation for responding to such situations. While many teachers report applying variations of positive guidance, others indicate that they respond in negative ways, such as telling children "That's not nice," calling parents without solutions to share, or ignoring behavior that makes them uncomfortable. Many teachers, especially those with less experience, report that they are uncertain about what is developmentally expected at various ages and which behaviors may cause concern about sexual abuse. Thus, a need has been established to help teachers respond in knowledgeable ways that are supportive of children's typical level of curiosity, set reasonable limits, and partner with families. Mary Sciaraffa and Theresa Randolph point out that in addition to gaining knowledge, teachers must become comfortable in order to best support healthy sexuality development in young children.

Differences in families must be understood by early childhood teachers. Some variations include the following:

Within Family Communications About Sexuality. Some families may openly and authentically discuss related topics and use anatomical terms for

body parts while others may have nicknames for male and female genitalia and much less open discussion. Children will come to school demonstrating these variations.

Family Space and/or Value for Privacy. Some families openly share sleeping and bathroom space leaving less opportunity for privacy. Others may insist on privacy at various times. Children will come to school with different views about public and private behaviors.

Media Offerings and Limitations. Some families may strictly regulate what young children watch on screen and others may allow children to be exposed to sexuality that is beyond their level of comprehension. For some children, this causes stress and acting out.

Exposure to Prejudice. Some families practice an anti-bias approach to gender and sexual orientation. Other families may openly indicate prejudices. Although young children have difficulty comprehending deep meaning of such prejudice, they may demonstrate overt prejudice in classrooms.

Attention to anti-bias efforts is related to early childhood professionals' support of young children's healthy sexuality development. As teachers model tolerance, fairness, and respect for all individual differences, they create an environment of warmth and empathy for all.

Children's Behaviors That Are Indicators for Concern

Although the premise of this entry is to provide information about young children's healthy sexuality development, an examination of child behaviors that should cause concern regarding a need for intervention is included to demonstrate that some behaviors are not typical of young children. Francis Wardle has compiled this list of children's behaviors that should receive immediate attention from adults and are cause for intervention and in some cases referral to determine whether the child has been sexually abused:

- A child who complies with intrusive or painful activity by another child
- A child who engages in self-inflicted painful sexual activity
- A child who engages in oral/genital contact with another child
- A child who engages in simulated intercourse while undressed
- A child who penetrates a girl's vagina with a finger or other object
- A child who forcefully enters any orifice in another child with a finger or other object

Common to these unhealthy behaviors is that they are aggressive and require compliance of another child. When parents or teachers observe these behaviors, it is necessary that they tell children to stop, put their clothes on, and follow through with help for both children.

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See also Anti-Bias Education, Components of; Child Abuse Prevention; Family Engagement Models; Gender Diversity; Gender Roles; Psychosexual Theory

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SHYNESS IN YOUNG CHILDREN

In the past 30 years, a burgeoning literature has accumulated on the topic of children's shyness. This entry describes the origins, correlates, and consequences of shyness in childhood—a phenomenon which, under particular circumstances, can bring with it the behavioral expression of solitude and wariness in social company, rejection and victimization by peers, and negative feelings of self-regard.

Defining Shyness and Related Constructs

In their efforts to identify the etiology of children's personalities and social behaviors, developmental scientists have attempted to determine the relevant dispositional dimensions of temperament that may underlie children's actions that are displayed consistently across situations and continuously over time. One such dispositional construct is *shyness*. Shyness has been conceptualized as feelings of emotional wariness in the face of social novelty and/or feelings of self-consciousness in situations of perceived social evaluation.

In many respects, the construct of *social reticence* represents a behavioral manifestation of shyness. This behavioral manifestation of shyness is marked by observations of the child hanging back in the peer group, watching peers from afar, rarely making attempts to initiate interactions with peers, and backing away from initiations made by others. When asked to speak up in groups of unfamiliar peers, shy or reticent children choose not to do so at all, and if they do speak, it is uncomfortably and

for a very short period of time. Further, when asked to collaborate with peers to solve problems, they spend their time watching others rather than providing the requested help. Social reticence putatively reflects internalized feelings of shyness that involve conflicted motivations of approach and avoidance. In this regard, shy, socially reticent children desire social interaction, but their social *approach* motivations are inhibited by fear-induced social *avoidance*.

The assumption that felt shyness is reflected, behaviorally, by socially reticent and inhibited behavior is supported by research demonstrating strong relations between adult appraisals (usually by parents and teachers) of shyness and observations of preschoolers' social reticence. During early childhood, feelings of shyness are elicited when confronted by unfamiliar children and adults. To some, the behaviors that accompany feelings of shyness serve an adaptive purpose in that they remove children from situations that they perceive as discomforting and dangerous. But variability of this early childhood response is great; some children clearly demonstrate shyness and social reticence excessively.

By the time that children enter elementary school, they have the cognitive skill to compare themselves with others and to understand that others can, and do, pass judgment on them. It is this understanding of social comparison and evaluation that can elicit shy or withdrawn behavior among older children, adolescents, and adults. That is, children may remove themselves from situations that they believe will be discomforting because others will pass judgment on their skills, personae, and so on. Again, variability is great; some children display shyness that is clearly out of the ordinary.

A related construct that has received a great deal of attention is *behavioral inhibition*. *Behavioral inhibition* has been defined variously as (a) an inborn bias to respond to unfamiliar events by showing anxiety, (b) a specific vulnerability to the uncertainty all children feel when encountering unfamiliar events that cannot be assimilated easily, and (c) one end of a continuum of possible initial

behavioral reactions to unfamiliar objects or challenging social situations. These definitions highlight some common elements: Behavioral inhibition reflects a pattern of responding or behaving to unfamiliar people, objects, and situations with signs of caution, anxiety, distress, avoidance, or disorganization. Indeed, the constructs of shyness, social reticence, and behavioral inhibition are highly correlated during the early childhood period.

It is important to note that the common denominator for shyness, social withdrawal, and behavioral inhibition is that the representative behavior is one that moves children *away* from their social worlds—*solitude*.

Developmental Origins of Shyness and Social Withdrawal

Biological Foundations

There is clear evidence that young children who are temperamentally shy and behaviorally inhibited differ physiologically from their more social and outgoing peers. According to Louis Schmidt and Arnold Buss, shy children have a biological profile that includes genetic predispositions to anxiety disorders and internalizing problems, neurophysiological functioning indicative of poor emotion regulation and a tendency to withdraw from novel stimuli, and an autonomic nervous system that is more reactive to stressors and less effective in regulating that reactivity. Though they may be important causes of shyness, these biological vulnerabilities are largely undetectable by shy children's interaction partners, operating quite literally below the surface. It is quite likely that shy, socially reticent children themselves do not fully understand their own bodies' responses to novel stimuli. What is clear is that these biological substrates provide the earliest known causes of shy and inhibited behavior.

Genetic Influences

Despite the inherent challenges of disentangling the roles of genes and the environment in shaping development, there is increasing support that allelic variations in the promoter region of a gene

for the serotonin transporter 5-HTT are related to higher levels of shyness, inhibition, anxiety, and negative emotionality. Carriers of the short allele of the 5-HTT gene produce lower levels of 5-HTT, which in turn results in less serotonin uptake in the synaptic cleft. Reduced serotonin uptake affects several important neural circuits in the brain, especially those involved in processing emotions. Neuroimaging studies have demonstrated that individuals with at least one short allele of this gene show greater amygdala activation in response to fearful stimuli (i.e., faces) than individuals who have two long alleles.

This increased reactivity to negatively valenced stimuli likely has consequences for children's psychological health. For example, children who inherit at least one short allele from their parents are more likely to be diagnosed with a pediatric depressive disorder. Despite this gloomy description, genes are not destiny. Nathan Fox and his colleagues have found that having the short allele for the 5-HTT gene was only related to inhibition and shyness when children experienced low levels of maternal support. The presence of the short allele may perhaps be best thought of in the context of a diathesis-stress model. While the short allele may predispose children to become inhibited, shy, and anxious, these predispositions need not develop into full-blown levels of psychopathology if children do not experience a lack of parental support, maladaptive parenting experiences, and/or such negative experiences as peer rejection and victimization.

Neural Correlates

Shyness has been increasingly linked with a particular pattern of activation in the frontal cortices. More specifically, children and adults who appear to have difficulty regulating their negative emotions and exhibit a tendency to withdraw from novel stimuli show evidence of greater right relative to left frontal activation. This finding linking right frontal asymmetry to inhibition and social reticence has been detected across a number of studies involving numerous labs and research groups.

The association between inhibition and greater right frontal asymmetry has been demonstrated in infants as young as 9 months. Moreover, infants who are inhibited and show increases in relative right frontal activation between 9 months and 48 months go on to become more socially reticent with peers as preschoolers. The importance of greater relative right activation, even at rest (i.e., not performing any tasks), is that the left prefrontal cortex has been conceptualized as a “brake” governing fear-related neural circuitry, whereas the right prefrontal cortex is thought to be associated with the “release” of the fear circuits. In sum, findings regarding the neurophysiology of shy children continue to paint a picture in which biological substrates that are more common among shy and inhibited children are related to increased difficulty in regulating such negative emotions as fear and anxiety.

Autonomic Nervous System Functioning

Mediated by the hypothalamic-pituitary-adrenal axis, the stress response is designed to help humans marshal needed resources in preparation for defending themselves from harm or fleeing from danger. As with other biological substrates, shy children exhibit differences in this important component of the autonomic nervous system relative to typical peers. For example, 4-year-olds who are wary in the company of peers have higher levels of basal cortisol in the morning than non-wary peers and tend to be rated as shyer by their mothers. Other biological markers of heightened sympathetic nervous system activity that may predispose young children to behave in a shy or wary fashion include a high resting heart rate, higher levels of norepinephrine, and lower respiratory sinus arrhythmia. For example, respiratory sinus arrhythmia (an indirect measure of vagus nerve functioning) is related to better functioning of the parasympathetic nervous system, which is responsible for down-regulating the stress response. Researchers have consistently shown that shy, socially reticent children are more reactive to stressors, and less capable of regulating such reactions.

Parenting and Shyness

While there is clear evidence linking temperamental shyness to physiological substrates, biology is not destiny, and children are quite malleable in their development, regardless of their genetic and physiological predispositions. Being a parent to a highly reactive and inhibited infant can be demanding, especially given that parents of highly reactive infants may share some of the biological vulnerabilities leading to their offspring's early temperament. Inhibited, shy children are often emotionally reactive (easily upset) as infants, and caregivers of these infants are less likely to behave in consistent, supportive ways that would lead to the formation of a secure attachment between child and caregiver.

Attachment theorists such as John Bowlby maintain that the primary relationship develops during the first year of life, usually between the mother and the infant. Maternal sensitivity and responsiveness influence whether the relationship will be secure or insecure. Researchers have shown that securely attached infants are likely to be well adjusted, socially competent, and successful at forming peer relationships in early and middle childhood whereas insecurely attached children may be less successful at social developmental tasks.

Some researchers have proposed that those infants who are temperamentally reactive and who receive insensitive, unresponsive parenting come to develop an insecure attachment relationship with their primary caregivers. In novel settings, these insecure babies maintain close proximity to the attachment figure (usually the mother). When the mother leaves the room briefly, these infants become quite unsettled. Upon reunion with the mother, these infants show angry, resistant behaviors interspersed with proximity- or contact-seeking behaviors. It is argued that this constellation of infant emotional hyperarousability and an insecure parent-child attachment relationship may lead to frequent displays of inhibited/wary behaviors in early childhood. Indeed, Cathryn Booth-Laforce and Monica Oxford have shown that inhibited infants and toddlers who form insecure attachment relationships with their primary caregivers are observed to display socially wary and reticent

behavior among peers during the preschool period and beyond.

Moving beyond the formation of an early attachment relationship, researchers have shown that parental influence and control maintain and exacerbate child shyness, inhibition, and social withdrawal. For example, Kenneth Rubin and colleagues have conducted several studies that better define the pattern of maladaptive parenting behaviors that tend to increase inhibited, shy young children's tendencies to withdraw. They have referred to this parenting style as *oversolicitousness*. Akin to the popularized term *helicopter parenting*, oversolicitousness combines overprotective control with strong displays of affection absent the child's display of distress. Essentially, oversolicitous parents prevent their children from engaging in autonomous activities that may otherwise allow for the development of effective self-regulation and coping skills. The lesson learned by shy and withdrawn children who experience this sort of parenting is that they are incapable of meeting the challenges of their environments without a parent there to assist them. These findings are one reason that early interventions aimed at disrupting the link between shyness and later internalizing problems often involve psychoeducation that targets the parent.

Correlates and Consequences of Shyness

It is now well founded that under certain circumstances, shyness, behavioral inhibition, and social reticence in early childhood place children at risk for several negative social and emotional outcomes. First, shy, behaviorally inhibited toddlers have been shown to demonstrate more socially reticent and solitary activity in the peer group than their unshy, uninhibited age-mates. Theoretically and empirically, it has been proposed and found that it is through peer exchanges that children come to (a) better understand and appreciate the thoughts and feelings of others, (b) develop knowledge pertaining to the consequences of their own social behaviors when directed at others, (c) develop a sense of self in relation to

others, and (d) develop an understanding of relationships. In turn, the development of these social and self-cognitions have been posited to predict the display of socially competent behavior in the peer group and rich, positive relationships with friends. As such, it should not be surprising that young children who refrain from peer interaction are less social-cognitively astute and less socially competent than their more sociable peers. Furthermore, these social-cognitive and social-competence deficits are associated with, and predictive of, peer rejection and exclusion. For example, when presented with vignettes about hypothetical socially competent and shy peers, preschoolers report that they would rather play and be friends with a socially competent child than with a shy child. Importantly, many of these findings are evidenced across cultures.

One of the "costs" of the combination of socially reticent behavior and peer rejection is the development of negative thoughts and feelings about the self. In particular, shy children who have experienced peer rejection and/or exclusion come to believe that they are lacking in social competence and that their peers dislike them; in turn, these thoughts and feelings about the self predict increases in social withdrawal.

The difficulties associated with early childhood shyness tend to persist throughout childhood and adolescence. Shyness tends to be moderately stable across childhood, and early behavioral inhibition predicts later social withdrawal. For instance, children observed to be behaviorally inhibited at 4 months of age are more likely to be socially reticent with a peer at 24 months of age than noninhibited children. Similarly, children who are behaviorally inhibited throughout early childhood and display an attention bias to threat (i.e., they are highly vigilant in social situations) are more likely to be socially withdrawn in adolescence than noninhibited children.

As noted earlier, early childhood shyness and social withdrawal hinders the development of social competence; thus, it is unsurprising that stable shyness between infancy and early adolescence is associated with lower social competence in early

adolescence. Finally, early shyness places children at risk of later anxiety disorders, particularly social anxiety. For example, it has recently been demonstrated that children who were very shy from ages 2 to 5 years old had higher levels of internalizing problems at age 5 than those with low or decreasing shyness. Similarly, researchers have revealed that young children observed to be highly behaviorally inhibited at some point between the ages of 1 and 6 years were significantly more likely than their noninhibited peers to have a diagnosis of social anxiety 5 years later, and children who were stably behaviorally inhibited between age 1 and age 7 were more likely than noninhibited children to be diagnosed with social anxiety disorder at age 15. In summary, shyness in early childhood is associated with less peer interaction, lower social competence, greater peer rejection and exclusion, and more internalizing problems and anxiety both concurrently and in later childhood and adolescence.

Importantly, however, parental behavior moderates the relations between early shyness and subsequent social and emotional problems, such that early shyness and inhibition only predict maladaptive outcomes when combined with negative parenting. For example, although children who display behavioral inhibition in infancy are at higher risk of anxiety disorders in adolescence, this relation has been found to hold true only for children with insecure attachments in infancy. Similarly, behavioral inhibition in infancy has been found to predict social anxiety disorder in adolescence only for those children with overly controlling mothers. Thus, although early shyness may predict later negative outcomes, behavioral inhibition and shyness only predict maladjustment if parenting experiences are also problematic.

Applied Issues

Because shyness places young children at risk of social and social-cognitive difficulties and later internalizing problems, researchers have developed several intervention programs to decrease anxiety and behavioral inhibition in young children. One intervention effort that has been developed to meet

the needs of extremely shy and inhibited young children is the Cool Little Kids (CLK) program developed by Ronald Rapee. In the CLK, clinicians teach parents of preschool-age children about the nature of anxiety and appropriate parenting techniques, gradually exposing children to stressors and addressing the parents' own anxiety. In the first evaluation of CLK, it was found that behaviorally inhibited children whose parents participated had fewer anxiety disorders 1 year later than children in a waitlist control group; also, the more sessions that the mothers attended, the fewer anxiety diagnoses the children received. At a 3-year follow-up, children in the intervention group were significantly less likely to be diagnosed with anxiety disorders than control group children. In addition, a more intensive 8-week version of CLK in which the children and at least one parent had anxiety disorders resulted in significantly reduced frequency and severity of anxiety disorders in the children, less interference of children's anxiety symptoms in daily life, and a decrease in children's observed inhibited behavior. These results demonstrate that a parenting intervention for shy children in early childhood can reduce the incidence of anxiety symptoms and disorders throughout childhood and adolescence.

More recently, the Turtle Program was developed for highly inhibited and shy preschoolers. This intervention combines Parent-Child Interaction Therapy focused on teaching parents to avoid intrusive or overly controlling behavior while praising children's social approach behavior, as well as a Social Skills Facilitated Play program. The latter part of the Turtle Program involves teaching children key interaction skills like initiating conversations, establishing eye contact, and regulating their emotions when in the company of other children and adults. Andrea Chronis-Tuscano and her colleagues recently reported that children in the intervention group had significantly fewer total anxiety symptoms and greater decreases in behavioral inhibition and internalizing problems than children in a waitlist control condition. In summary, recently developed interventions with young children have demonstrated

efficacy in reducing children's shyness and anxiety, with lasting effects.

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See also Brain Development; Emotional Development; Parenting Effects on Child Development; Peers and Play; Social-Emotional Development; Temperament and Development

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SIBLING RELATIONSHIPS

Children's earliest interactions are those that occur in their families; given that most children in Western societies have at least one sibling, relations with brothers and sisters constitute an important part of the family system.

Sibling interactions have a number of unique features that differentiate them from children's other early relationships such as with parents and peers. First, inherent developmental and power differences between older and younger siblings in the same family lead children to take on different roles in sibling interactions. For instance, older siblings more frequently act as caretakers and teachers for their younger siblings than vice versa.

At the same time, because they are often relatively close in age, siblings engage in reciprocal and returned exchanges that are typical of peers, such as play. In this sense, sibling relationships are defined by both complementary (i.e., hierarchical) and reciprocal (i.e., equal, returned) features. Second, siblings spend a great deal of time interacting with one another. In fact, during early childhood, many children spend more time with their siblings than with anyone else, including their parents. As a result, they develop a long history of shared exchanges, thus establishing a common history together and potentially constructing an intimate bond. Siblings can, and often do, use this knowledge of one another's preferences, habits, and characteristics in both positive (e.g., to comfort) and negative (e.g., to tease) ways. Third, perhaps partly because of the amount of time they spend together, sibling relationships tend to be affectively intense, often characterized by strong positive, negative, and sometimes ambivalent emotions. Last, there are wide individual differences in the qualities of sibling interactions; these relationships vary dramatically in terms of both warmth and hostility, and some pairs can exhibit a blend of both characteristics.

These distinct features of sibling relationships are evident in the features of positive and negative interactions that are typically observed between young siblings. On the more positive side, friendly sibling relations in early childhood are associated with positive and adaptive functioning as children get older. Play is one important context in which siblings often engage in sustained and sophisticated forms of positive interaction, including pretense. Social pretense is associated with children's friendly interactions, their understanding of their social worlds, and their performance on formal measures of social cognitive ability such as their understandings of others' psychological perspectives. During pretense, siblings learn to negotiate in play to create joint understandings of play scenarios, transform objects, scaffold and extend one another's ideas, and use language that reflects the story characters' feelings and thoughts. Older siblings can be adept at scaffolding play interactions

for younger siblings and to engage them in collaborative ways. In addition, siblings frequently engage in warm and prosocial behavior, with older siblings more likely to initiate friendly, helpful interactions, and engage in caretaking and comforting. In turn, younger siblings are more likely to imitate and respond positively to their older sibling. Nevertheless, as younger siblings get older they become more active partners and are seen to take the lead more often during play and friendly interactions.

Siblings also spontaneously teach one another new skills and concepts about their physical and social worlds and use a range of sophisticated strategies such as verbal instruction, demonstration, and scaffolding to convey knowledge and involve the learner. Older siblings engage in more teaching about a range of topics such as math and literacy than younger siblings during ongoing interactions at home, but younger siblings also teach their older siblings at times.

On the negative side, many interactions between siblings are defined by high levels of conflict and rivalry. Observational research indicates that preschool-age children engage in conflict between three and 10 times per hour, most frequently about property-related issues (e.g., competition for shared resources in the home). Although these disputes provide opportunities for children to learn about moral issues such as property rights and ownership, conflicts between siblings are typically poorly resolved, and can also become emotionally intense or aggressive. Older siblings are especially likely to use power-assertive strategies (e.g., aggression) to get what they want at the expense of younger siblings; this is especially true when younger siblings do not defend themselves. When sibling conflicts become extremely aggressive or violent, this has been associated with problematic consequences for children's well-being and relationships outside of the family. For this reason, many parents are concerned about sibling conflict and the best ways to intervene. Research suggests that parents play an important role in supporting siblings' ability to develop empathy and to resolve issues constructively. For example, when parents are trained to

mediate sibling conflicts (i.e., help children understand each other's perspectives and come to mutually agreeable solutions), children are more effective at resolving issues on their own. Younger siblings become empowered to play an active role in negotiations, and in turn, older siblings are more likely to consider the goals and emotions of their younger counterparts.

Broadly speaking, when parents interact with siblings, it is important for them to avoid engaging in differential treatment and indiscriminately favoring one child over the other. Rivalry for parents' love and attention is evident from the first days of sibling relationships. The birth of a new sibling is often a challenging and stressful time for older siblings, who may exhibit a range of positive (e.g., affection, interest) and negative (e.g., clinginess, distress) reactions to this event. As children get older, rivalry also appears in other forms. For example, children frequently tattle on their siblings and react in jealous ways when parents give more attention to their brother or sister. When children view their parents as engaging in consistent favoritism, this has been linked to poor-quality sibling relationships, particularly if children view the favoritism as unfair.

In conclusion, the sibling relationship is a multifaceted and rich context for children's development, providing a natural laboratory for children to learn how to get along with significant others in their social worlds.

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See also Aggression; Family Systems Theories; Prosocial Behavior; Siblings and Play

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SIBLINGS AND PLAY

Siblings are often children's first play partners since about 80% of Western children have a brother or sister with whom they are close in age. The sibling relationship is an important context for young children's learning and development because in the early childhood years, siblings spend more time with each other than with parents or other children. Sibling relationships are also affectively intense, involuntary, and lifelong relationships. This relationship is characterized by both reciprocal (equal and returned) interactions such as during play and conflict and also by complementary (hierarchical) interactions that define teacher–learner interactions. Reciprocal interactions, particularly play and prosocial exchanges, are important for children's development and by age 3, siblings strongly prefer to play with each other rather than with their parents.

Play is considered a critical context for facilitating young children's language (e.g., vocabulary, narrative skills), social-cognitive (e.g., understanding others' perspectives) and social (e.g., sharing, affection), fine motor (e.g., dexterity, eye–hand coordination), creativity (e.g., alternative solutions), and problem-solving (e.g., conflict resolution) skills. During play, young children focus on the means (i.e., process) and not on the ends (i.e., product); thus, for example, they are more interested in the process of mixing colors while painting than in producing a painting of a specific house or person. Play provides opportunities for experimentation and flexible thinking, whether it is drawing with colored markers, building a tower out of blocks, or creating a pretense scenario. The social aspect of play is of particular importance; since children like to play together, the opportunities for joint

problem solving, learning to understanding another's point of view, resolving disagreements, experimentation, and coconstruction of pretense scenarios are endless.

What makes siblings such attractive play partners for one another? Siblings know each other very well because of their long and coconstructed history of growing up in the same family; thus, they are intimately aware of each other's preferences, shared knowledge about the world, and styles of interacting. Siblings often take great pleasure in playing together, especially in coconstructing pretend scenarios; these shared experiences can be used as the foundation for children's imaginative thinking.

Because of their knowledge of the younger sibling's skills and interests, older siblings can initiate and engage their younger siblings in play through a variety of strategies such as suggesting a play theme, demonstrating how to construct a city from blocks, scaffolding and building on their own and their sibling's ideas for creating pretend scenarios, and also responding in friendly and warm ways to the sibling's initiation of play ideas and actions. Employing these kinds of strategies not only invites the younger sibling to play; they are also effective in sustaining play episodes for long periods of time. In return, younger siblings have a role in maintaining the play interactions by imitating the language and actions of their older sibling and by using simple verbalizations to enhance the play (e.g., making animal sounds when playing with farm animals). While older siblings are more likely to initiate play episodes than younger siblings early on in their relationship, over time younger siblings become more active and equal play partners as their language, cognitive, and collaboration skills improve. Siblings who are more collaborative in their play and who seem to be "in sync" with one another are less likely to engage in disputes and controlling behaviors.

The focus on social pretend play is important because this activity requires siblings to work together to coconstruct and agree on a scenario by negotiating the roles, characters, actions, and story line to create a narrative. This is a process that

clearly requires sophisticated language, cognitive, and social skills. In addition, siblings must learn how to resolve disagreements and to take the perspective of their play partner, not always an easy process for siblings because of their age differences. Although sibling dyads differ in the degree to which they like to engage in pretend play together, many children spend long hours in this form of play, and those who do show a greater social understanding of the world compared with siblings who engage in less frequent pretend play. This social understanding is evident in the kinds of language that siblings use in their play, specifically references to others' thoughts (e.g., believe, think) and feelings (e.g., happy, sad). Use of this kind of language is associated with greater perspective-taking skills in children. When children are cognizant of how their sibling thinks and feels about the world, they can also spin a pretend scenario that includes references to what the pretend characters are thinking and feeling and thus enhance their joint understanding of the pretense.

Further, sibling dyads that engage in frequent pretense employ quite sophisticated negotiation strategies that facilitate joint play such as assigning roles, transforming objects (e.g., changing a roof piece into a mud flat for pigs), suggesting play themes ("Let's pretend . . .") and are more likely to use rich descriptive language (e.g., "upside down valley"). Siblings can create typical pretend themes defined by the characteristics of the play props, for example, having the "farmer" feed the cows hay, as well as developing creative themes that move beyond the props' characteristics and add a new element, such as pretending that a hurricane is blowing down the trees and barn. When siblings propose creative pretend themes, they are more likely to engage in object transformations that change the identity of an object to add to the richness of the scenario, for example, by indicating that a block is a piece of pizza. Sometimes siblings are more interested in the physical characteristics of the play props and how to set them up (e.g., building a train track or setting up a village) than in coconstructing a typical or creative pretend scenario.

In sum, the context of pretend play is important for the development of children's flexible thinking and creativity as well as their narrative skills, and the sibling relationship provides rich opportunities for these developments and to just enjoy the pleasure of playing together.

Nina Howe

See also Peers and Play; Play and Early Childhood Education; Pretense; Sibling Relationships

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SLEEP

Sleep is defined as a period of relative inactivity where the body's senses and voluntary muscles are inactive. This entry examines current themes around sleep and young children, including how sleep contributes to healthy growth and development, the phases of sleep, and factors affecting sleep.

Phases of Sleep

Sleep has two distinct phases: non-rapid eye movement (NREM) or dreamless, quiet sleep that is divided into four mini-stages of increasing

depth; and rapid eye movement (REM) or active sleep where vivid dreaming occurs. In newborns, 50% of sleep is REM sleep. As children age, however, the percentage of NREM and REM sleep changes. By 4 months, approximately 40% of sleep is REM sleep and by 1 year, 25% of sleep is REM. Eventually, children match the adult average of 20% REM sleep.

Sleep and Health

Sleep is recognized as vital for maintaining good health. During sleep, the body produces new bone and tissue and repairs or restores what is damaged in the body when awake. Lack of sleep in young children is associated with a range of disorders including behavioral and mood difficulties, obesity, lower academic performance, and growth problems. For children with attention-deficit/hyperactivity disorder (ADHD), improvements in sleep result in higher academic achievement scores and healthier peer interactions. The consequences of poor sleep can be long lasting. Ongoing or cumulative sleep deficiency is linked to an increased risk of heart disease and high blood pressure in later life. Recent research findings indicate a strong relationship between infant sleep position and sudden infant death syndrome (SIDS). Placing infants on their back to sleep is the number one way to reduce the risk of SIDS. Additional SIDS-reducing sleep practices include ensuring that the sleep surface is firm and safety-approved, that soft objects and toys are kept out of the sleep area, and that overheating is avoided.

Factors Affecting Sleep

Age

Sleep requirements vary according to age. Most newborn infants spend 70% of each day, or 16 to 17 hours, sleeping. This decreases as they grow. By the time an infant is 8 weeks old, he or she is sleeping more during the night and less during the day—although there are cultural influences associated with the expectation that infants sleep throughout the night. By 4 months of age, infants

adopt adultlike sleep patterns, spending most of their daytime hours awake and nighttime hours asleep. Not all children follow this sleep developmental trajectory, however. Between 10% and 20% of young children fail to establish stable sleep patterns. Infants who are reported to have sleep problems at 8 months are more likely to be poor sleepers throughout their early childhood years.

Temperament

Temperament is an individual's biological reaction to environmental situations or stimuli. Infants with a challenging temperament (characterized by high levels of intensity, distractibility and/or fussiness, and a low level of adaptability) are more likely to have problems with sleep. Temperamentally challenging infants sleep less both during the day and at night. Young children who were reported by parents as having an easy temperament with low distractibility and high adaptability demonstrated increased sleep. A caveat to these results is in order since most studies of temperament use parent self-report measures and are subject to reporter bias.

Separation Anxiety

At 8 or 9 months of age, infants begin to understand that their primary caregivers exist even when they are not with them. This marks an important stage of healthy emotional development and it is typical for infants during this stage to cry when put down to nap or sleep. They are anxious about being left alone. While the first signs of separation anxiety generally start at the end of the child's first year, this phase of development can last until his or her second or third birthday. Separation anxiety can interrupt even the most established sleep routines and schedules but this regression fades as the child grows. Caregivers can help by offering reassurance to the child, by letting the child know when the caregiver is leaving (not sneaking out), and/or by playing peek-a-boo. Games such as peek-a-boo or jack-in-the-box help the infant understand that when something is out of sight, it comes back. If this otherwise normal phase of development continues beyond 6 years of age, it

may be a sign of a separation anxiety disorder and may require treatment to resolve.

Culture

Culture helps shape underlying beliefs, values, knowledge, customs, and norms about sleep. This in turn influences parenting practice. Euro-American parents are known to encourage the cultural practice where children sleep at scheduled times in their own room. Asian parents, in contrast, are more likely to promote bed sharing throughout childhood. In some rural communities in Africa, infants are carried around throughout the day and sleep in slings on the back of their mother or a female sibling. At night, they sleep in close contact with their mother. No effort is made to schedule the infant's sleeping pattern, and sleep typically consists of short naps throughout the day and night. Unlike their Euro-American counterparts, at 4 months of age these infants sleep no more than 4½ hours at a time. This divergence in sleeping practice is informed in part by the culture in which the child is reared.

The Sleep Environment

The sleep environment can significantly impact sleep patterns. For example, studies indicate that exposure to light can affect how well children sleep. Having a television or other media in the bedroom can disrupt the body's natural day-night rhythm and should be avoided. To encourage sleep, the environment should be quiet, cool, and relaxing.

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See also Infant-Parent Relationships; Obesity Prevention; Parenting Effects on Child Development; Temperament

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SMART START (NORTH CAROLINA)

Smart Start is North Carolina's comprehensive, community-based initiative to improve the early care and education (ECE) system. Serving children under age 6 and their families, the main long-term goal of this initiative is to ensure that all children are healthy and prepared to succeed in school. Smart Start has been a leading example of the "reinventing government" movement wherein government sets performance objectives and provides flexibility to communities in how to meet them. Smart Start empowers communities to make their own decisions about how best to improve their ECE system. Other states and communities have used the initiative as a model when designing new early childhood initiatives.

Advised by early childhood experts and backed by major business leaders, both Republicans and Democrats, then-Governor Jim Hunt and the North Carolina General Assembly established Smart Start in 1993. An initial \$20 million of tax revenue was appropriated to fund 12 pilot Smart Start counties, one per congressional district. A system of allocating the funding to counties was established that considered both needs and existing resources for young children. A competition for funds was held. Each county, or group of counties applying together, had to collaborate by establishing a local nonprofit 501(c)3 partnership before applying. Twelve "pioneer" partnerships were funded in 1993 and over the next 4 years, as the annual funding increased, 81 local partnerships encompassing all 100 North Carolina counties were funded. The highest level of funding was achieved in the 2001 fiscal year, \$250 million.

Local partnership boards are comprised, by statute, of a diverse mix of community members who work collaboratively to plan and fund programs that will best meet the needs of their community. The nonprofit North Carolina Partnership for Children (NCPC) provides statewide leadership, technical assistance, and oversight for Smart Start.

In the first years of the project, state guidelines were loose and counties were encouraged to take

different routes to the ultimate goal of school readiness. However, after a few years, the NCPC developed a list of core services. Eventually, the legislature mandated that at least 30% of Smart Start service funds be spent on child care subsidies for low-income parents and 40% on other activities related to center- and home-based child care such as quality enhancement and professional development. The remaining funds could be spent on health and family support activities.

The initial legislation funded a statewide Smart Start evaluation conducted between 1993 and 2003 by a team of researchers from the Frank Porter Graham Child Development Institute and the schools of education, public health, and maternal and child health at the University of North Carolina at Chapel Hill. Evaluation goals included documenting the process, determining whether Smart Start-funded efforts improved the quality of early childhood programs, and assessing whether Smart Start benefited children and families. Because hundreds of different activities and interventions across the state were implemented as part of Smart Start, the evaluation team developed a post hoc logic model based on the delivery process of the many activities and their intended outcomes. Activities fell into four broad categories of services related to child care quality improvement, family functioning, children's health care, and increased or improved interagency collaboration. Most of these activities had implicit, if not explicit, short-term goals in the pursuit of the long-term goal of school readiness.

Guided by this systems change model, the evaluation efforts focused substantially on access to and quality of early childhood education programs, and children's health, language, and social outcomes. Other studies focused on families and the collaboration process. The studies used rigorous research methods whenever possible; both qualitative and quantitative analyses were conducted. Over 10 years of evaluation, 35 different studies were completed. Because local partnerships focused at least 70% of their funds on child care issues, a few of these studies are described below.

A variety of local activities addressed the availability and quality of center- and home-based child care programs. Each year the numbers of centers, teachers, and family child care providers that participated in these activities increased and the number of children affected by these activities increased. In addition, 8,900 new child care spaces were created with Smart Start funding.

The quality of early childhood education also improved. Donna Bryant, Kelly Maxwell, Michele Poe, and Karen Taylor (2003) observed 180 randomly selected ECE classrooms using Thelma Harms and Richard Clifford's environment rating scales and showed that quality increased steadily and significantly across four assessment occasions from 1994 to 2002. Compared with 1994, in 2002 more than twice as many classrooms scored in the high range on the quality measure. Another study showed that the quality of center-based care was significantly related to the number of local quality improvement activities in which the centers participated and, within a partnership, to the amount targeted to quality improvements. Ellen Peisner-Feinberg, Kathleen Bernier, Bryant, and Maxwell (2000) found a similar positive association between family child care quality and participation in Smart Start quality initiatives. In 12 partnerships that significantly increased the numbers of high-quality programs in their county, key-informant interviews conducted by Taylor and Bryant (2002) revealed the variety of strategies these partnerships employed, including grant programs for purchase of quality enhancement materials, on-site customized technical assistance delivered by consultant/educators, linking subsidy reimbursement amounts to quality improvement, and support of college education for teachers and family providers.

Did Smart Start achieve the goal of improving children's readiness for school? By prospectively following into kindergarten 214 preschoolers (4-year-olds) who had attended ECE centers that had participated in extensive Smart Start quality improvement activities, and comparing them with 294 classmates who had attended non-Smart Start centers, Maxwell, Bryant, and Shari Miller-Johnson (1999) found significant differences between the two groups. Smart Start children entered school

with significantly higher vocabulary scores and more positive teacher ratings of their social skills; they were also 50% less likely to have behavior problems. These differences were seen even after controlling for poverty. The study's pediatrician, Jonathan Kotch (2000), compared the same two groups of children, and found that those who attended Smart Start centers were significantly more likely to have a regular source of health care than children who had not (90% versus 82%). A study of 512 children in 120 classrooms linked a center's participation in Smart Start quality improvement programs to higher classroom quality and also linked higher classroom quality to higher scores among children on assessments of literacy and numeracy skills, as reported by Bryant and team members (2003). It was this study that provided policy makers the most convincing support for the positive effects of Smart Start.

The evidence supports the view that Smart Start is an innovative and effective model that many other states and communities have followed when designing new early childhood initiatives.

Donna Bryant

See also Child Care; Early Childhood Education Systems; Quality Rating and Improvement Systems; State Policy Making

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Evaluation of North Carolina's Smart Start Initiative:
<http://fpg.unc.edu/projects/evaluation-north-carolinas-smart-start-initiative>

SOCIAL CLASS EFFECTS ON DEVELOPMENT AND LEARNING

Social class is defined as a system of stratification within society that separates groups and individuals on the basis of their relationship to capital. Although there is variation in how class is categorized, often the upper class refers to those who own the means of production; the middle class are those white-collar workers/professionals who invest in capital and who have control to a degree over the working-class/blue-collar wage workers, who are often grouped with the poor. Oftentimes, social class is aligned with income and educational levels. Because of structural inequities within society, the social class hierarchy is influenced by factors such as race/ethnicity, gender, sexuality,

language/national origin, and (dis)ability. Because these factors are intertwined, early childhood research often adopts an intersectional approach when discussing social class, and a similar approach is adopted in the following discussion. In this entry, effects of social class on children's development are described, as are the historical, theoretical, and practical tensions experienced by researchers and educators studying childhood through a social class lens.

Overview

Social class is associated with equity because, as sociologists such as Pierre Bourdieu, Ellen Brantlinger, Annette Lareau, and Carol Vincent have described, families and children are positioned hierarchically based on their social class status. This affects child care, early education, and schooling. Social class is an especially important construct in early education. That is because *habitus*, which is defined as the dispositions, attitudes, and habits of mind that an individual internalizes as he or she experiences social interaction and social class, is shaped at home and at school in the early years. There exist different life trajectories for various social classes. The most limited outcomes are for the poor and working classes, who are systematically marginalized in society and who may be disadvantaged not only by class but also because of their race/ethnicity. While poor and working-class groups have strengths such as resiliency and strong, resourceful families, it is a myth that it is common for poor and working-class individuals to break into the upper class. While early childhood education has long played a role in identifying and remediating the effects of social class to produce improved outcomes for poor and working-class children, debates continue about how the opportunity gap among children and families can be dismantled.

Historical and Contemporary Perspectives

Researchers have long been concerned with finding and remediating the effects of poverty in

young children through preschool. Two such turn of the 20th century interventionists include Maria Montessori and G. Stanley Hall. The 1930s to 1960s saw research linking various kinds of “sensory deprivation” and “cultural incompetence” among the poor to a lack of exposure to White, middle-class experiences that could be provided in early education. Since the 1960s, researchers have sought to uncover specific variables within individuals from different social class and racial/ethnic groups to provide clues on how to remediate the deficiencies caused by disadvantage. This was part of a larger project that sought to prevent and remediate barriers for the poor and working classes.

In the 1960s, the popular media promoted hypotheses regarding a culture of poverty existing in urban areas. This rhetoric implied that African American families were the “problem” in need of remediation. This discourse was derived, at least in part, from the well-known research of the anthropologist Oscar Lewis, who in the 1950s and 1960s developed his theory that there was a true transnational, cross-generational culture of poverty that was an adaptation and reaction to the marginalization of the poor in capitalist society. At this time, the federal government responded with a number of social programs designed to fight the War on Poverty, including Head Start. Prior to Head Start, a number of research programs studied ways in which to remediate the effects of social class. In the early 1960s, the Perry Preschool project, for example, implemented the HighScope curriculum with low income, African American students. Researchers found that over the years, there were higher graduation rates, less delinquency, and less special education placement among the children who attended Perry Preschool.

During the Johnson administration’s War on Poverty, Head Start was conceived as a federal government intervention that could eradicate poverty in the United States. While consistently underfunded since its inception in 1965, Head Start has provided part-time readiness-oriented preschool to poor and minority children. While Head Start programs have conceived of parent involvement in

different ways, many programs have had parent empowerment and advocacy components.

While the knowledge gained in these early projects suggested progress toward addressing the deficits created by class, 4 decades after these initial intervention projects, social class inequalities remain marked. For example, research in 2002 by Valerie Lee and David Burkam used Early Childhood Longitudinal Study (ECLS-K) data to show widespread cognitive differences in young children even before kindergarten entry, with poor and working-class children more likely to attend underresourced schools and experience cognitive delays than their middle-class counterparts. Overall, research in the 2000s has shown a more complicated picture regarding the nature of class and its effects on education.

As shown through recent research by Pamela Bennett, Amy Lutz, and Lakshmi Jayaram, school settings have the power to erase opportunity gaps between the social classes, but because of the complex effects of parenting logics, financial resources, and the institution of schooling, schools may ironically contribute to inequities because they do not provide the quality and types of activities and instruction that children who attend middle- and upper-middle-class schools receive. Similar findings are specific to preschool settings, for example in a 2013 report by Tran Keys and his colleagues. Furthermore, Brantlinger, Allison Griffith, and Dorothy Smith have shown that the members of the middle class, and especially mothers, are positioned by the educational system to advocate for pedagogies and practices that benefit middle-class children while excluding poor and working-class children. One persistent example in early childhood education is the practice of *redshirting*, defined as delaying kindergarten entry for middle-class boys with summer birthdays. As Beth Graue has described, this is a “gift of time” for the middle class in which the curriculum is intensified for all children, and poor and working-class children who do not have the opportunity for redshirting fall further behind their peers. Kindergarten should not be delayed for any children because children of all social

classes who are held out are more likely to receive special needs labels later on.

Theories Informing Views of Social Class in Early Childhood

Inherent in the chronology of early childhood education are particular theories of child development and childhood that have changed over time. Early childhood education has long been informed by developmental psychology. Jean Piaget's theories reflect findings about White, middle-class children, and the milestones derived from his theories do not adequately address social class. This is true especially when the intersections of culture and race/ethnicity are taken into account. Another important body of research comes from cognitive psychology and emphasizes the importance of ages 0 to 3 especially in promoting cognitive growth. The downside of such psychological theories is that they often locate deficiencies within individual children and their families. Early childhood researchers may alternatively use critical and sociocultural theories to understand how social class matters in communities. For example, they may apply Bourdieu's scholarship emphasizing the connections among economic, social, cultural, and symbolic forms of capital that structure the class hierarchy.

Critical theorists such as Valerie Polakow and Beth Swadener have been articulate in explaining how policies and other structural issues cause poverty and contribute to inequitable education and care for children and families. These issues are important to the role of early educators in shaping better practices that address social class and other inequities and support a perspective that sees children from the poor and working classes as "at promise" rather than "at risk."

While sociocultural and critical theories have greatly expanded understandings of social class effects, unfortunately, research and practice have sometimes followed the disproven notion that the White middle class is in itself an ideal culture. An example of this is the "culture of poverty" theory articulated by Oscar Lewis in the 1960s

and reinterpreted by Ruby Payne in contemporary times. Early education programs have at times emulated these monocultural views rather than advocating critical and multicultural approaches to teaching. This has, in turn, perpetuated deficit views of children and families based on class and race.

Practices

High-quality early education can erase opportunity gaps for children from poor and working-class backgrounds. The mainstream early childhood field relies heavily on the National Association of Early Childhood Education (NAEYC) accreditation model to support developmentally appropriate practice (DAP) frameworks. DAP is considered to be a high-quality model that many programs use in framing their philosophies and practices. However, debate continues in the early childhood field regarding the roles of culture and context in informing theories and practice. The meanings of quality in early education should continue to be considered. This has particular importance for the kinds of experiences offered to poor and working-class children, who may indeed be culturally different, not because they come from a culture of poverty but because there is an intersection of social classes and the multiplicity of cultures that exist in our diverse society. Recognizing children's varied cultural backgrounds and addressing structural disadvantages that lead to educational bias by class, race/ethnicity, and other identity categories are like two sides of the same coin; both are needed in early childhood education.

Public policies have changed parental roles in early education, often supporting a "parent involvement" model that is difficult for poor and working-class parents to implement. For example, such a model may encourage gendered middle-class forms of involvement like baking cupcakes and volunteering in the classroom for short time blocks during the school day. New ideas from Patricia Snell and Joyce Long reconceptualize parents' roles to enable parents to define their own involvement, and parents' involvement is interrelated with

their identity development in relation to school. By strategically helping parents overcome their own negative experiences with schooling, parents can then become more involved because they no longer are fearful of schools. These new lenses on families help early childhood educators develop more nuanced perspectives on social class, equity, and families.

Among national programs that provide targeted supports, Early Head Start is now an important intervention alongside Birth to Three and Head Start. Each of these reforms may support low-income children and children with disabilities, but access is limited. Since the mid-1990s, individual states have begun to implement various forms of prekindergarten. In several states, universal prekindergarten provides sometimes free readiness instruction to 4-year-olds and sometimes 3-year-olds regardless of income level. This programming relies on the research by Karen Schulman and Steven Barnett that the middle class may be priced out of preschool along with the poor and working classes, and that the middle class too may be at an educational disadvantage in the early years. With the Pew Charitable Trusts and President Obama's support, prekindergarten continues to expand. Prekindergarten may be the next frontier for exploring possibilities for erasing the opportunity gap.

Melissa Sherfinski

See also Equity and Equality in Early Childhood;
Family Strengths; Mothers; Poverty Effects;
Sociocultural Theory

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SOCIAL PLAY AND COGNITIVE DEVELOPMENT

Children live in a social world. From birth, they initiate an examination of their world. Through their development (infant, toddler, preschool, primary age), children explore and attempt to understand their social and physical surroundings. They progressively discover their growing community and ultimately consider themselves to be citizens. This entry explores the role of play in young children's self-discovery and knowledge acquisition; specific attention is given to the stages of social play that structure children's early lives.

Young Children and Knowledge Acquisition

Young children have to learn about themselves, their world, and their relationship to it. They test their knowledge on their physical and social world to obtain feedback from their outside world and distinguish the limitations between themselves and their immediate world. Young children acquire the knowledge and capabilities that they need to both function in their daily life and lay the groundwork for future learning. They basically manage their physical world and practice their knowledge concerning physical devices by touching, listening, or observing. They inspect objects and experiences in their current surroundings. Children discover, study, and try to understand the natural objects and situations that are around them. For instance, on the way to and from school, children observe everything that is in their environment. Then, in their classroom, they act out their observations. They will naturally express their worries with others and materials in their surroundings. Children constantly seek solutions to inquiries like "How?" "How does it work?" "How did it get there?" "How do you know?" When children play, they are, as Melanie Peter (2003) observes, "learning how to do it while doing it" in order to engage more meaning-

fully in a social world and heading toward a higher level of social knowledge and understanding (p. 21).

Children need to have access to all sources of information that is simple, clear, and accurate. They also need to be provided with authentic and vicarious experiences that can assist them in finding answers to their questions. Authentic experiences can include trips and personal contacts, whereas vicarious experiences can include pictures and books. Any type of experience needs to be carefully chosen and created to make sure that they are overall all-inclusive to help young children recognize details, apply the knowledge they learned in their play, and develop their understanding when they interact with others.

Young children observe the individual's behavior to understand its *meaning*. The effects of social behavior based on the situation provide meaning to the behavior, such as when children play. For instance, dramatic play fosters the children's personal and social learning. They begin to understand their social world when they act out roles the way they perceive and understand them. In dramatic play, young children interpret their social world, family, school, and community and role play their beliefs about their world, which is part of social play. When young children assume roles that represent those from their social world, they learn to get along with children with different perspectives. For instance, a child may convey "No, I don't want to be the mommy! I want to be the daddy!" In this situation, children discuss, negotiate, compromise, agree, and resolve disagreements among themselves, although children are at different social stages.

Stages of Social Play

The children's social play is vital in their development of pretend play. Current progressive points of view concentrate on the impact of the social context on their cognitive processes. This theoretical scheme includes those classifications of social interaction that have an impact on the children's cognitive development. As Lev Vygotsky maintains, such social interactions are enriched in the

children's pretend play. Their play behavior and social competence develop with age. Children who typically participate in play appropriately, solve problems, share information, and usually develop friendships easily, including with those children who meet for the first time, become friends when they play with each other. Children join social play when they (a) discuss their pretend play plans (such as "Hey, the Ninja Turtle just bashed you!"), (b) engage in pretend play, or (c) combine their solitary pretend play activities.

Since 1932, researchers have studied the children's stages of social play. Mildred Parten initially classified a progression of stages of social play: Three-year-olds participated in *unoccupied play* (not playing at all), *solitary play* (playing alone), or *onlooker* (observing other children play). Four-year-olds usually engaged in *parallel play* (playing side by side with others). Five-year-olds typically participated in *associative play* or *cooperative play* (playing with other children). Cooperative play was considered to be more developed than solitary play while parallel play was a transition from solitary play to cooperative play.

During the last 4 decades, several researchers, including Kenneth H. Rubin and Olivia N. Saracho, have questioned the stability and validity of Parten's social stages of play. They have found that young children display several stages of play for different reasons throughout their development. Some children are independent thinkers and prefer to play alone or alongside others, whereas others prefer to engage with their friends in associative or cooperative play. In her 2002 study, Saracho found that the children's personality has an impact on their sociability. Social children who like being with others participate in parallel, cooperative, and associative play; whereas less social children participate in solitary play. Parallel play (children playing alongside their peers) implies that children are becoming more advanced in their play, which may lead into more complex, interactive play. Frequently children can switch between solitary and cooperative play behaviors. In an earlier study, Saracho identified the following four characteristics in the children's play behaviors:

1. Frequency of play—how often children engage in play
2. Communication of ideas—how often children communicate (e.g., using words, pictures, gestures) their thoughts during play
3. Social participation—how often children engage in Parten's (1932) stages of social play: solitary, onlooker behavior, parallel, associative, and cooperative
4. Leader or follower—how often children initiate play

Play is vital in the children's social and cognitive development. During play, they learn the meaning of play and its function in life, civilization, and culture. Children's play helps them to understand the world around them and play what they see. They notice how their community members function such as going to the office, driving a bus, working at stores, or attending parties. Children act out these roles with their different problems and solutions. Their play permits children to test out new ideas without being frightened of failing. Children learn about social norms during pretend play when they engage in imaginary situations that offer them social opportunities and complications. They understand their make-believe experience and develop intellectual interpretations that affect their attitudes, behavior, and peers' point of view. Children assume different perspectives in their play and develop their social competence as they represent shared environments that are meaningful to their peers. Pretend play assists young children to examine and test their understanding of familiar social situations in imaginary contexts where they develop their own cultural patterns. During play, children exhibit their development of understanding of different objects and situations as well as their feelings and relationships about their peers in different situations as they act out important emotional pressures and themes. They learn how to cope with unconscious pressures. Pretend play gives young children the freedom to experiment with roles, resolve conflicts, and solve problems. It also helps them make sense of the world and be

able to negotiate meanings with their peers. When children participate in social pretend play, they encounter a joy that expresses their creative development throughout life. Social pretend play also helps children create an imaginary world that provides boundaries for the children's experiences. They recognize the life mysteries that they observed in intellectual and aesthetic areas. It includes both the social and physical elements that interact with each other and the children's individual developmental levels.

Many consider play, acting, and thought to be analogous, because they are processes that young children use (a) to test reality, (b) to free themselves of their anxieties, and (c) to control their situation. Imaginative play, make-believe play, fantasy play, dramatic play, sociodramatic play, symbolic play, and pretend play are related phenomena. All phrases represent play in relation to "pretending" or the application of symbols that "stand in" for that which is real. For instance, a child acts out being a dog and another child is the owner; a puppet talks for a child; or a stack of blocks symbolizes a cave for bears.

In the American culture, where ethical values endure, play is thought of as being a frivolous activity, without any valuable effects. Early childhood researchers and educators support the cultural belief that learning emerges only from work. They support play by referring to it as "child's work." In fact, play can be enjoyable, exciting, and imaginary and still have important educational values for young children.

Olivia N. Saracho

See also Noncurricular Play; Peers and Play; Play, Curriculum, and Pedagogy; Play and Early Childhood Education

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SOCIAL REFERENCING

Social referencing is a process of social influence whereby one's interpretation of a novel event is inferred from others' reactions to it. Although social referencing occurs among adults, researchers have paid considerable attention to infants given their broad social naïveté, meaning most situations are new to them and they must determine how to respond. Through social referencing, the emotional signals of others provide important interpretive guidance to infants, especially when confronted with new or ambiguous situations. This is one of the first behavioral and affective self-regulation strategies available to infants. In addition to providing them with important information about novel situations, it reveals infants' sensitivity to the behavior and affect of others and serves as a cornerstone of social and cognitive development.

Using social referencing, infants rely on facial, vocal, and behavioral cues of others—attachment figures in particular—to understand the emotional meaning of a situation. Classic examples can be seen when infants look to caregivers when approached by a stranger or after falling down. Thus, caregivers provide an emotional gauge for infants, who regulate their responses accordingly.

Understanding infants' use of social referencing is important for developmental, clinical, and theoretical reasons. Social referencing explains how infants gain crucial information about the physical and social worlds. This information is especially critical as they gain motor independence and are more likely to be in situations of risk (e.g., approaching stairs or a dangerous object). In understanding the relationship between an event and another's emotional response to it, infants come to regulate their own affect and behavior. Thus, social referencing is a simple but powerful self-regulation strategy used in the first year of life.

Research on Social Referencing

Joseph Campos and Craig Stenberg argue that social referencing is a biologically organized process for communicating important emotional messages like threat and joy. In support of this idea, social referencing has been observed in nonhuman primates including rhesus monkeys and chimpanzees where facial expressions communicate affective messages, separating rough and tumble play from aggression, for example. Of evolutionary relevance is the finding that children look longer at parents' expressions of fear than of happiness, suggesting the greater signal value of fear in communicating critical information about risk. The adaptive advantage of social referencing is that it allows infants to learn about threat and risk vicariously via caregivers' affect, bypassing the need for firsthand experience.

According to Campos and Stenberg, Mary Klinnert, and Tedra Walden, referencing is marked by two key features. First, it occurs under conditions of ambiguity. Second, the affect of the referent influences the infant's emotional and behavioral

responses toward the event. These affective messages may be actively solicited by the infant or may be inferred indirectly from the referent's facial, behavioral, and vocal reactions to the event. Caregivers are the most likely referents, but infants will also reference unfamiliar adults who are part of unfamiliar events, as though infants see those persons as having specific expertise about the novelty and how to respond to it. Numerous studies with infants show robust effects of social referencing on infants' affect and behavior toward a wide variety of novel situations other than fear or threat, including pretend.

Historically, most social referencing studies use the visual cliff paradigm, in which infants who are new to crawling or walking are placed in an ambiguous motor situation (i.e., having to assess whether they can descend a sharp drop) to determine whether the infant's decision can be influenced by parental facial and/or vocal cues. As a result, younger infants who are not close to crawling or walking have received little attention in the social referencing research, although anecdotal observations suggest that they too are keen observers of parental affect. Walden proposes that although younger infants may not intentionally refer to their parents to interpret ambiguous situations, parents provide these emotional messages anyway, and infants tend to match their affect as a result. Recent research has shown that 5½-month-olds and 6-month-olds are more likely to touch a novel toy that has been associated with positive emotional cues delivered by an adult, and that 6-month-olds direct more gazes at an event subsequent to observing a parent smile and laugh at it. Such findings suggest that younger infants' behavior, though not their affect, toward a novel stimulus or event is influenced by the affect of others toward it.

Thus, although young infants may not solicit emotional information the way older infants do, they do pay close attention to caregivers' unsolicited emotional cues, looking longer and more frequently at caregivers when they provide emotional information about an event. These studies suggest that social referencing emerges from young infants'

tendency to pay close attention to novelty as well as to others' affective expression toward it, so that they eventually understand that others can serve as emotional referents from whom they can solicit affective guidance and respond accordingly. Thus, social referencing appears to emerge from infants' preference for novelty that by 6 months gives rise to information seeking and affect sharing, and by the second half of the first year results in joint affect sharing toward events.

Clinical Relevance

Since young infants learn to respond to situations by mirroring the emotional expressivity displayed by parents, social referencing may have clinical relevance, particularly with regard to emotion regulation. This is especially important in understanding how maternal depression, for example, may influence infant emotion regulation and expression. Edward Tronick's classic studies of the still-face paradigm show that 3-month-old infants whose mothers simulate depression exhibit emotional negativity and reduced smiling. This may be a direct result of the infants' use of mother as an emotional referent and could suggest a point of intervention with depressed or highly anxious mothers and their infants. In fact, infants of depressed mothers are less likely to reference them, perhaps because those dyads disengage.

Atypical Development

Children with developmental delays do not exhibit the same tendency to rely on social referencing. Specifically, children with autism fail to process faces differently from objects, which at least partly accounts for their diminished reliance on social referencing. A theory of mind is also directly related to social referencing, as both require the ability to perceive social cues including facial expressions. Thus, the presence or absence of social referencing can be useful as an indicator of other developmental processes.

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See also Emotional Development; Social-Emotional Development

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SOCIAL SKILLS AND SCHOOL SUCCESS

Social skills are skills developed and practiced through engaging with others and include appropriate interactions and use of societal norms. Children must have opportunities to learn in positive environments that support curiosity, problem solving, and social interactions. Children need time to laugh together, wonder with their teacher, and get lost in books for the joy of the story. A sense of belonging and opportunities to share ideas with peers are necessary for children to feel successful in the classroom. Children need to be able to construct understanding through physical interaction with materials, play with peers, trial and error, and moving their bodies. This requires teachers to slow down, allowing children to think

and explore like typical children of their age. This entry examines the importance of developing children's social skills and the role social skills play in their school success. It then considers some of the consequences of not placing social skills, such as collaboration, at the center of the curriculum.

Overview

Since the early 2000s, there has been a very distinct shift of priorities in teaching children. Many schools have moved from early classrooms focused on play and building relationships to a drill and skill environment in an effort to meet testing requirements connected to funding sources. This has resulted in classrooms that overlook the following essential understandings about how young children learn:

- Children need meaningful experiences in learning to make sense of processes and to build understanding.
- Children need social relationships to learn important concepts such as cooperation, negotiation, compromise, and empathy.
- Children need to be able to make mistakes in all domains and disciplines in their efforts to grow and learn.
- Children need to move their bodies and explore the arts while learning.

As children are coached through social development and peer relationships, the complexities are compounded by the fact that children are exploring and interacting with a variety of different personalities; what worked for successful interaction with one peer may not be effective with another. Positive social experiences lead to a secure environment that allows children to take risks, to feel capable in their efforts and trusting of their teacher, knowing he or she is there for support, guidance, and celebration.

Theory

The pragmatic approach, which was recognized by John Dewey in the late 1800s to early 1900s, is being largely overlooked today and is intended to

address practical matters of applying children's interests and natural curiosity to daily activities to maximize learning and social opportunities. Dewey's democratic ideals are reflected in the contemporary views of researchers such as Dan Gartrell, who identifies democratic life skills for building a community of learners. When practicing from this perspective, teachers build a trusting classroom where children know they belong, can make mistakes, and become problem solvers in creative and long-lasting ways. Many classrooms today fail to foster the interest and innate curiosity that Maria Montessori noted were essential for all young learners. Additionally, the drill and skill approach that is being implemented in many classrooms locks children's thinking in at the very lowest level of Bloom's taxonomy: *remembering*. When Benjamin Bloom identified the concept of mastery learning, he was referring to a learner moving from lower order thinking to higher order thinking, the goal of meaningful learning.

Intervention

Children need to be able to discuss and make sense of the tasks they are being asked to complete. A child who is able to explain how and why he sorted and classified items into groups is expressing an ability to analyze. A child who is given the opportunity to explain a sequence of events is able to evaluate a situation. In sharing and discussing these ideas, children may learn from one another, and their shared ideas may help others "see" a concept in a new or different way, broadening perspectives and deepening understanding. The use of hands-on sensory learning tools, providing project opportunities, working in pairs and groups, and having choices in the classroom are all ways that social experiences can be enhanced for young learners.

Class meetings offer countless opportunities for teachers to model and children to practice discussing and expressing opinions, problem solving and mutual respect, and sharing and caring. Through meetings, teachers can explain and demonstrate concepts while scaffolding skills in meaningful ways.

As schools cut back on recess, the arts, and social engagement, many children are overwhelmed by the external pressures of academics and assessment. When teachers are encouraged to build positive classroom communities, modeling caring and concern for everyone, time is spent getting to know each other and children are encouraged to work together. As members of this community of learners, children feel a sense of belonging and caring about one another. When they are able to make mistakes, whether through attempts at decoding in reading or negotiating with a peer, children grow by practicing important skills, while being coached and supported by their teachers. Teachers need support and concurrence for creating healthy environments from administrators who understand child development and trust teachers to know their young students well while providing opportunities to build positive relationships, practice interpersonal skills through role playing, trade book topics, and engage in authentic conversations.

Classrooms where children feel they belong, where they feel safe, where they can trust adults to guide them, and where they are provided with activities that are engaging produce young learners who are highly interested, curious, and motivated and will therefore persist through challenging tasks.

Notably, many businesses today search for employees who are able to work and collaborate with others, yet these skills are being overlooked in many classrooms. If schools do not recognize the need for social learning, students are unlikely to gain the skills necessary to attain success in this important area. Schools have a responsibility to help children become successful citizens equipped with all the skills, including all the social skills, needed to excel in the future.

Laureen E. Nelson

See also Approaches to Learning; Child Development and Early Childhood Education; Emotional Development; History of Early Childhood Education in the United States; Relationship Building; Warm and Responsive Interactions

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SOCIAL SKILLS ASSESSMENTS

Social skills have been defined in many ways. Broadly, social skills are interpersonal responses that allow children to adapt to their environment in order to initiate and sustain interpersonal relationships through verbal and nonverbal modes of communication. There are a number of social skills assessments available for young children that have been widely used to identify individual social deficits, guide decision making in the selection of social skills programs and services, and evaluate intervention or treatment outcomes. Because *social skills* is a broad term that encompasses several specific skills and behaviors that span various domains of social functioning (e.g., acceptance, communication, engagement, friendship, play, reciprocal interaction, etc.), assessing social skills in young children may be challenging. Many social skills assessments incorporate contextual factors, so that the varying function and rules of social behaviors across situations and social partners can be appropriately captured. The purpose of this entry is to review a broad array of social skills assessments that are frequently used in research, clinical, and school settings. These assessments vary in administration, completion, and method and include parent and teacher rating scales, self-report measures, behavioral observations, Q-sorts, and sociometric ratings.

Rating Scales

Parent and teacher rating scales are commonly used to assess children's social skills across the home and school settings. The benefit of rating scales is that they are easy to use and time efficient. The following are comprehensive and widely used rating scales. The Preschool and Kindergarten Behavior Scales (PKBS), now in its second edition, is a norm-referenced multirater rating scale that measures the social skills and socioemotional behavior problems of preschool and kindergarten children ages 3 to 6. The PKBS has two domains: Social Skills, comprising Social Cooperation, Social Interaction, and Social Independence; and Problem Behavior, comprising Externalizing Problems and Internalizing Problems. Another widely used rating scale is the Social Skills Improvement System (SSIS). The SSIS is a multirater (i.e., parents, teachers, and students) assessment of general social behaviors for children 3 to 18 years of age. The SSIS yields three categories: Social Skills, Problem Behaviors, and Academic Competence. Lastly, the Social Responsiveness Scale is a parent- and teacher-rated measure that assesses reciprocal social behavior that has been used to distinguish children between the ages of 4 and 18 years with a pervasive developmental disorder from those with other psychiatric conditions.

Self-Report Measures

Although less frequently used, self-report measures of children's social skills provide information about a child's perceptions of his or her own social competence. Self-reports generally ask children to report their thoughts and opinions about their social behaviors and relationships as well as how they would act in various social situations or interactions. The SSIS, reported above, has a self-report version.

Behavioral Observations

Behavioral observation is another method that is frequently used to assess children's social skills. Of the various methods, behavioral observations are the most ecologically valid method of assessing

children's social skills as they capture social behaviors in the setting in which they naturally occur. Typically, behavioral observation entails a well-defined behavior (e.g., engagement, peer initiations and responses, etc.) to be observed or the use of a coding system to classify observable behaviors and trained independent observers who observe children across a set period of time within a natural setting (e.g., home, classroom, playground, etc.). Within these settings, behavioral observations may provide important information with regard to the frequency and range of social behaviors. One frequently used observation system is the Playground Observation of Peer Engagement (POPE). The POPE is a time-interval behavior coding system that examines children's social engagement and communicative behaviors with peers on school playgrounds. The POPE is designed for children 4 to 12 years of age.

Q-Sort Methodology

The Q-sort methodology differs from traditional paper and pencil measures as it allows raters (i.e., parents, teachers, school staff) to rank in order—from most characteristic to most uncharacteristic—a set of descriptive items to which scores are assigned. The Social Skills Q-Sort (SSQ) permits descriptions of individual children's repertoire of social skills in order to create one comprehensive social skills profile. The SSQ consists of a set of 100 descriptive cards of children's social skills, to be arranged or "sorted" into nine piles whose designations range from most characteristic (pile 9) to least characteristic (pile 1). Each item on the SSQ is scored in terms of its placement (piles 1–9) in the distribution (e.g., each of the five items in pile 9 received a score of 9; each of the eight items in pile 8 received a score of 8, and so forth). Subsequently, the items are correlated with the criterion means to generate one total SSQ score.

Sociometric Ratings

Sociometric ratings are another useful methodology for assessing peer acceptance, rejection, and

popularity. Sociometric ratings provide a robust picture of children's informal classroom peer groups, or social networks. Generally, sociometric ratings entail peer nominations, where children list classmates that they prefer and do not prefer to hang out with as well as peer ratings of children they see hanging out in groups. Sociometric ratings have been used with children ages 4 to 18.

The social skills assessments provided in this entry represent a sampling of the vast number of methodologies used to assess social skills for young children. The selection of the appropriate assessment will depend on a number of factors including the social skills of interest, the particular context, and data collection procedures, among others.

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See also Friendships; Social Skills and School Success; Social-Emotional Competence; Social-Emotional Development; Standardized Assessment

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SOCIAL STUDIES TOPICS

Young children typically think about their needs and gradually learn to care about the needs of others. An important aspect of development is for children to learn and interact with people around

them, first family and then community, and to care about the needs of themselves and others. Usually, the first people young children come into regular contact with are their family members, and their home makes up their immediate surroundings; soon after they begin to interact with their community. Children come to understand how elements of their community, such as school, faith-based institutions, government, and civic organizations influence them. It is therefore the responsibility of families and educators to help young children learn about their community and their role in it. Integrating social studies into young children's school experience is the best way for them to learn and experience community.

Models have been advanced to explore the significance and extent of communities that young children relate to. Urie Bronfenbrenner's ecological systems theory model has been applied to advance the understanding of how children experience family and communities. This model explains that children's understanding of communities begins with their personal experience through their relationship with their families. This understanding expands to include community aspects such as their school, neighborhood, and other places beyond. As children observe and experience their environment, they begin to comprehend nature and their place in it. They need support in order to experience their community in positive ways.

Research

Young children understand communities in different ways depending on their age. For infants, their community consists of family, caregivers, and peers. They understand and learn their environment by engaging in it through play, exploration, and interaction. Preschoolers' engagement with their environment is broader. Their community expands to include their school, including the teacher and their peers. They have the opportunity to expand their understanding of community through working together with others and solving problems together. The teacher's role is to encourage preschoolers to think outside of themselves.

Kindergarteners' understanding of their environment includes their ability to make friends and follow instructions and classroom rules. They are better than preschoolers at communicating their needs and wants. Understanding their environment includes learning concepts in the classroom through discussions, writing, and drawing.

Primary-school-age children understand their environment in various ways, including through problem solving. They are better able to understand others and differences between people. At this age, their drawing and writing are more precise, making it possible to clearly express their understanding of their community. Children are able to understand their immediate community when teachers involve them in working with others in developmentally appropriate ways.

Children develop their sense of identity in part based on their relationships with their families. They learn how their families value them and their place in their families based on the attention they get from family members. The home experience impacts children's involvement in communities outside the home.

The Teacher's Role in Promoting Community

In order to build community, teachers need to model the meaning of community and how children are to relate to people in it. Teachers need to put into consideration various aspects that will help them successfully foster knowledge of community. Aspects such as a welcoming and safe classroom environment, routines and procedures, wall arrangements, transitions, seating arrangements that reflect diversity, classroom meetings, and interpersonal relationships encourage opportunities for communication and self-expression in respectful ways.

Classrooms that do not emphasize community building are not able to tap into children's ability to learn and grow as community members. Teachers can involve young children in authentic learning opportunities and activities in the following ways:

Planning and setting expectations allow children to work better as a classroom community when following given sets of expectations rather than classroom rules. Classroom expectations or plans provide a positive classroom climate so that children focus on what they should do rather than what they are not supposed to do.

Class meetings provide children a safe environment to practice basic interpersonal skills such as respect, communication, and valuing of different opinions.

Promoting responsibility to each other through following various routines and doing tasks and chores individually and as a group allows children to learn responsibility.

Teamwork and mutual support activities are ways for children to learn social competence, as Mary Jalongo notes in her 2006 article “Professional Development: Social Skills and Young Children.” Social competence is a basic human skill meant to establish positive relationships. Through such activities they are able to experience a sense of belonging, being appreciated, and being valued.

Establishing a sense of belonging helps children feel a part of the classroom. This can be achieved through helping them know what to expect from their teacher and throughout the day. A predictable environment helps children feel safe in their classroom community. Displaying their work around the room and walls not only reflects diversity in the classroom and community but also helps children experience a sense of belonging.

Involving community helpers in order to broaden children’s sense of community allows children to interact with community members not only to learn but to practice aspects of human interaction already learned in the classroom. These community helpers include police, firefighters, medical personnel, and postal workers. Additionally, children should be given opportunities to practice classroom chores such as cleaning and distributing supplies.

In their 2015 book, *Social Studies and Young Children*, Eucabeth A. Odhiambo, Laureen E. Nelson, and Kent Chrisman point out that understanding and celebrating diversity is a valuable opportunity to talk about differences and similarities. Occasions such as birthdays and holidays are opportunities to celebrate differences and similarities. When children share with their classmates their differences through displaying their work, pictures, and fingerprints, they are able to view individual difference in a positive light.

Children are born into a community setting. In order to grow and integrate into the community, they need to develop the skills required to successfully relate to their families and community. The family working together with the school can foster these skills through authentic, developmentally appropriate classroom activities.

Eucabeth Odhiambo

See also Bioecological Theory; Curriculum and Early Childhood Education; Family Engagement in Curriculum; Family Systems Theories; Social Play and Cognitive Development

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SOCIAL-EMOTIONAL COMPETENCE

Social-emotional competence is an important developmental milestone that influences all aspects of children’s lives. The development of social-emotional skills occurs throughout childhood and

is strongly linked to school success, both academically and socially. Emotional competence consists of a child's comprehension, expression, and regulation of emotions. As children mature, they learn to apply their knowledge of emotions to social situations in order to regulate their display of emotions in accordance with societal expectations. Therefore, emotional competence and social competence are interdependent. One definition of *social competence* is success with peer interactions and is typically measured through peer acceptance. Children are more likely to be accepted by their peers if they master important social skills such as perspective taking, conflict resolution, and reciprocity in order to achieve social goals. Although researchers explore many predictors for social-emotional competence, there are three overarching criteria that are essential, particularly in educational contexts: (1) self-regulation, (2) conflict resolution, and (3) positive peer relationships. Individual differences (e.g., biological and environmental factors) influence the extent to which children learn, practice, and master these three components.

Criteria for Competence

Self-Regulation

Self-regulation is mastered when children are able to manage and control their emotions and behaviors. First, they learn to identify basic emotions (joy, sadness, anger, fear) through facial and body expressions. As they gain generalized experiences with these emotions, they develop knowledge of the causes for the emotions that then serve as cues to assist them in understanding the social situation. If children can identify the emotion and talk about the emotion, research has found, they are more likely to be socially competent. Over time, they learn societal rules that determine when and where emotions can or cannot be displayed and that distinguish between acceptable and unacceptable behavior. These rules are socially and culturally constructed and differ according to where a child is raised. Children are socialized

to conform with these rules, and expectations for compliance increase as they age and learn. The goal of socialization is for children to feel good about themselves as they learn to behave according to society's rules.

Parents are considered to be the primary source of socialization in early childhood. First, they provide emotional and social experiences for young children. Infants and parents develop a pattern of interaction in which they initiate and respond to each other's emotions in a reciprocal manner. There is theoretical support and research evidence that the quality of parent-child interactions is predictive of a child's interactions with others throughout childhood. Children who are emotionally secure within their parent-child relationship are more likely to achieve positive academic and social outcomes. Parents also determine who enters the social world of their young children and where their children spend time, such as in an early childhood education program. In later stages of childhood, children have the capacity to choose their social partners, and peers become a very important influence. Although peers may be equally inept with regard to social skill development, they may have a greater expertise about same-age peer group norms and expectations than parents. This is particularly salient for children from immigrant families. Second, parents model emotional expressiveness for their children, informing them about the nature and causes of emotions. Research has found that children learn to modulate their own emotions in response to their expectations for their parents' reactions and as a result these reactions are highly salient in the development of emotional knowledge. Third, parents socialize their children through discussions of emotional and social behaviors. Parents typically "coach" their children about societal expectations regarding appropriate and inappropriate emotional displays and social behaviors. Children internalize social rules and apply them to their interactions with peers. However, because they continue to come across unfamiliar situations and are still learning self-regulation, conflict often erupts between peers.

Conflict Resolution

Conflict resolution is an important skill to learn that is dependent on self-regulation. Very young children approach conflict in simple and impulsive ways; they use aggression, seek assistance from an adult, or passively turn away from conflict. As children mature, they learn to use verbal strategies to solve conflict. Children with friends are less aggressive and have fewer conflicts. In other words, children who manage conflict well are more likely to be accepted by their peers and to be considered socially competent. Girls tend to use more relationship-oriented strategies to resolve conflict while boys tend to use more assertive, self-centered strategies. It is important to note that these findings may be primarily relevant to cultures in which the defined gender roles correspond with these strategies.

Children eventually learn to modify their conflict resolution strategies to achieve social goals. For example, if the goal is to maintain harmony and continue play, they may be more likely to concede during a conflict. Social goals are influenced by the level of friendship (friend or nonfriend), the environmental resources that are available (space, materials, activities), and the purpose of the conflict (personal rights, object possession). Conflict is considered to be a necessary component of social development and should be allowed to manifest in order to provide children with the opportunity to practice their resolution strategies and achieve success within their peer relationships.

Peer Relationships

One of the most important developmental tasks for children is to create and retain positive relationships with peers. These peer relationships are built on a framework of interactions and experiences together that can be characterized as equal with regard to competence and power. Infants identify peers as social partners with smiles, vocalizations, and gestures. Toddlers engage in cooperative games and conflicts moving toward social pretend play during the preschool years. Some toddlers and *most* preschoolers have friends. Researchers define *friendship* as a mutual

preference for shared interaction, play, and positive affect. Children learn to regulate their emotional responses within interactions to coordinate social play with others. They have to communicate their affection and desire to create a friendship with each other in order for play to develop into a mutual preference. This skill is dependent on emotional understanding and an ability to read the cues of a social partner. Some believe that children's accuracy in perceiving themselves and others depends on the amount of practice they have had in social situations. Others believe that deficits in social perceptions are based in cognitive development. Both theories are likely to be true in that children who have difficulty with social cognition skills are less accurate in social perception, are more likely to be rejected, and have fewer opportunities to improve their skills.

Individual Differences

There are biological and environmental protective factors that contribute to individual differences in social-emotional competence. For example, children who are physically attractive have been found to have higher levels of peer acceptance and more mutual friendships. And, as mentioned earlier, children raised by parents with appropriate parenting strategies co-construct secure attachments and are more likely to develop positive peer relationships during their childhood than children with insecure attachments. There are, however, also biological and environmental risk factors that lead to individual differences. Biological risk factors such as temperament, autism spectrum disorder, shyness, or physical disabilities such as vision loss are just a few examples that influence social and emotional development. Environmental risk factors might include child maltreatment, poor-quality early childhood education programs, and low socioeconomic status (SES).

Biological Risk Factors

Temperament is defined as a biological basis for individual differences in affect, activity, and

attention levels that can be observed from infancy and that remain relatively constant throughout development. Some children react intensely and negatively to various aspects of the environment while others display mild reactions or varying reactions. Over time, and with maturation and experience, children develop coping strategies that modify their reactions to fit within the environment, and these adjustments are referred to as personality. Temperament may have both direct and indirect effects on social development. For example, high reactivity and poor regulation are directly predictive of the development of aggressive behavior. On an indirect level, children with different temperaments elicit varying responses from others and seek out different types of environments, thus determining the level of practice they gain in the social world.

Children with autism spectrum disorder (ASD) struggle with understanding and regulating their emotional responses appropriately according to the demands of societal norms and expectations. Their reactions do not comply with the social rules that other children have learned and this leads to problematic interactions and, at times, peer rejection. These children may actively isolate themselves from others. Shy children similarly may withdraw from others but as a result of fear and anxiety when faced with new social situations or peer judgment. They may desire to play with other children but lack approach skills. Typically, they will observe other children at play without participating. Children with a visual loss may also experience isolation because they are unable to interpret the social cues that are found in facial and body expressions. They miss the subtle shared experiences that explain rules and conventions related to play. Research has found that children with a visual impairment have lower rates of peer interaction, higher rates of adult interaction, and higher rates of solitary play than same-age peers without disabilities. In each of these examples, a factor that lives within the child impacts his or her perspective of emotions and social knowledge.

Environmental Risk Factors

Risk factors can also be externally introduced into a child's life through the environment that the child experiences, thus resulting in individual differences. Inappropriate parenting practices such as abuse or neglect have been correlated with insecurity in the parent-child attachment relationship and poor peer relationships. Maltreated children are more likely to be aggressive or withdrawn in social situations. Similarly, children in poor-quality early childhood education programs are more likely to be aggressive. Although poor-quality care is not equivalent to the emotional trauma of maltreatment, children's experiences with peers and teachers in settings that lack safety, supervision, or a positive emotional climate do not provide adequate opportunities to learn positive social skills. Fewer practice opportunities lead to the perpetuation of immature resolution strategies, such as aggression, during conflict. Children whose families are economically disadvantaged also lack opportunities to play with same-age peers due to an increased risk for exposure to violence in their neighborhoods and reduced safety in playing outdoors. Research indicates that children in lower SES families engage in less complex play than same-age peers in middle-SES families. The collective outcome for children with biological or environmental risk factors is that they have less practice with social situations, and the interactions that they do have are often challenging. Yet, children differentially respond to risk in varying and dynamic ways that can lead to isolation or resilience.

Key Factors in Promoting Social-Emotional Competence

Emergent emotional skills complement and facilitate social abilities. Children begin to express their feelings appropriately, regulate their emotions, and learn social rules for behavior, providing a foundation for appropriate interactions with teachers and peers in preschool, kindergarten, and beyond. They are initially socialized by parents and later by peers. Social-emotional competence develops gradually in an interdependent manner but can be influenced by biological and environmental factors that lead to

individual differences. Regardless of differences in biology or environment, the most important component is frequent opportunity to practice perceiving the emotional states of others, testing various social responses, and gaining social and emotional knowledge that can be retained and applied to new situations until, eventually, competence is achieved.

Leslie Ponciano

See also Emotional Development; Play, Benefits of; Social-Emotional Development

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SOCIAL-EMOTIONAL DEVELOPMENT

Social-emotional development is the domain in which children grow in their understanding of their emotions and of the emotions of others and learn to create positive relationships with those around them. Children are able to identify their own feelings and be sensitive to the feelings of others, regulate their emotions and behaviors, demonstrate empathy, and form relationships. Current thinking about children's social-emotional development emphasizes the importance of relationships and the complexity of the contexts of each child's life.

For much of the past century, a major goal of early childhood has been the socialization of children, as they grow in their emotional well-being and learn to negotiate interactions with others in their world. With recognition of the tremendous growth that takes place in the first years of children's lives, there is now an emphasis on all developmental domains. Specific focus on cognitive development is a result of recent pressures for children's academic performance. However, social-emotional development remains important because it contributes to children's cognitive development. Additionally, social-emotional development plays a role in the development of children's prosocial behavior, which is at the core of anti-bullying and character education programs in schools and classrooms. Although the goal of socialization has often been, and still is, explained in terms of a young child's future success as an adolescent or adult, social-emotional development is now also recognized as a vital goal for the present well-being of each child.

A Contemporary Approach to the Knowledge Base

The knowledge base of social-emotional development is a synthesis of theory, including both historical foundations that retain meaning and validity and new perspectives from contemporary research that extend and strengthen our understanding. The

body of traditional theory that continues to guide us and new insights gained from advanced research lead us to relevant and practical work with, and on behalf of, young children and families. What we have learned in our work with children and families, or in other words, “the wisdom of best practices,” is enhanced by the application of this dynamic body of theory and research.

The social and emotional worlds of children are inextricably linked in a shared developmental domain although, in some writing, they appear as separate areas of knowledge, inquiry, and application within disciplines. These varying perspectives only serve to enrich our knowledge.

Major Theorists and Theories on Social-Emotional Development

There are several theories that serve as historical foundations in the social-emotional development of young children.

Attachment theory, developed by John Bowlby, addresses the nature of the emotional bond between infant and parent or caregiver that occurs beginning in the early days or weeks of a child’s life. Attachment continues to develop through interaction and mutual affection over the course of the first 2 years of life. In her further study of attachment, Mary Ainsworth defined types of attachment as *secure* or *insecure*. This theory remains valuable to our understanding of the beginnings of social-emotional development in young children and has significant implications for work with infants.

Erik Erikson’s psychosocial theory of development continues to resonate with contemporary thinking, as each of his life stages presents critical dichotomies, or conflicts that need to be resolved, that are related to children’s social-emotional development. Within his life-span stages of psychosocial development, the first four, *trust versus mistrust*, *autonomy versus shame and doubt*, *initiative versus guilt*, and *industry versus inferiority*, apply to young children from birth through age 8. As we continue to explore the importance of relationships in

social-emotional development, it is helpful to note that the adults in children’s lives are also engaged in their own conflicts in their critical life stages. Teachers and others working with children and families may consider the “fit” between needs of children and adults in their own stages.

Jean Piaget’s theory of cognitive development also addresses children’s social-emotional development. His stage theory includes social-emotional developmental expectations linked to cognitive development, such as object permanence in infancy and aspects of play and interaction with peers in the preschool years. Additionally, he identified three stages of children’s moral development: premoral, moral realism, and moral relativism. While Piaget’s theory of children’s construction of knowledge is still widely accepted, aspects of his stage theory have been called into question. In the social-emotional domain, children are capable of perspective taking and empathy at earlier ages than in Piaget’s stages.

Lev Vygotsky’s sociocultural theory continues to have extensive implications for social-emotional development. Learning through social interaction is the underlying theme in his theories of *internalization*, of learning from an adult or a more capable peer, and of the *zone of proximal development*, or ZPD, the distance between what a child is able to do independently and what the child is able to do with help. This theory emphasizes the child’s potential for development rather than the development that he or she has already achieved. Vygotsky (1978) commented on how children’s play leads to development: “In play, a child always behaves beyond his average age, above his daily behavior; in play it is as though he were a head taller than himself” (p. 102). His sociocultural theory reflects current perspectives on context in children’s social-emotional development.

Contemporary Theoretical Perspectives

Several other theories on social-emotional development stem from more recent research.

Bioecological Systems Theory. Developed and refined by Urie Bronfenbrenner, it has relevance for contemporary and emerging theoretical perspectives. This theory explains children's social-emotional development in terms of relationships and context. Interactions across and between nested systems that take place beyond the family context affect children's development. Bronfenbrenner's theory includes elements that are a function of social-emotional factors: *process*, regular and ongoing interactions within the individual's immediate environment; *person*, characteristics of individuals that can influence processes over time; *context*, the five systems of the original ecological systems model (the *microsystem*, *mesosystem*, *exosystem*, and *macrosystem*, and the historical time of the *chronosystem*); and *time*, those things that happen in an individual's day or lifetime, as well as in the historical time context of the chronosystem.

Neurological Perspectives and Applications of Brain Research. Advances in neurobiology and their implications for children's development have brought about new ways of thinking, have challenged our assumptions, and have provided affirmations of early theory. An understanding of neurological development and of the process of the strengthening of synapses in the brain allow us to identify *windows of opportunity*, or optimal times, for certain types of brain development. During these windows of opportunity, teachers and caregivers can offer appropriate experiences to children in order to support their development in the social-emotional and other domains.

The Research-Theory-Practice Dynamic. In an example of this process, Robert Pianta has extended attachment theory to teachers and caregivers, with his research on classroom climate and teacher child interactions. He has reenvisioned Bowlby's theory in terms of "attachment networks" and alternate attachment figures, other than parents. This concept can also be connected to the research on resilience in children, as resilient children persist in their efforts to develop a relationship with a "caring other."

New Discourses. The importance of relationships in social-emotional development is reaffirmed with emphasis on the bidirectionality of children's relationships with parents and other family members, teachers, siblings, and peers. Variations in social-emotional development and the effects on children's early school experiences have entered the discourse, along with the context of temperament and the ability to form positive relationships, as well as home language, culture, and ethnicity. Inquiry from a feminist perspective is suggested as a framework for the examination of relationships in the lives of children.

Research Initiatives. Widespread concern about children's development in the early years has led to large-scale research projects and reports, many of which have been federally funded in the United States with data from the National Center for Education Statistics. A study of the science of learning by the National Research Council Committee on Early Childhood Pedagogy resulted in the 2001 publication *Eager to Learn: Educating Our Preschoolers*. Another example is a 2003 report from the National Research Council, *From Neurons to Neighborhoods: The Science of Early Childhood Development*. That these large studies have been funded and conducted is evidence of the national interest in children in the early years. This work has led to new insights and yet more questions about children's social-emotional development.

Best Practices for Enhancing Children's Social-Emotional Development

Having opportunities for play and experiencing positive relationships with peers and adults promotes social-emotional development among children in diverse and inclusive early childhood settings. Teachers can create and maintain caring classrooms, engage in themes of care in the curriculum, integrate the arts (drama, music, dance, and visual arts), and practice an anti-bias curriculum. Learning and using a language of kindness and respect for others gives each child a space to grow socially and emotionally.

Initiatives in many classrooms and communities address a range of social-emotional issues. Conflict resolution, bullying prevention, responding to tragedy and natural disasters, poverty and food insecurity, post-traumatic stress syndrome identified in children and adults, and social media and screen time are but a few. For those working with infants and toddlers and their families, understanding each child's temperament will support social-emotional development. Identifying the young child's temperament type allows adults to provide appropriate ways to help the child negotiate the experiences in their world. Meaningful family engagement is a powerful factor in classrooms that fosters children's social-emotional development. Knowing that all developmental domains are interrelated, teachers can be intentional in supporting social-emotional development along with cognitive, language, physical, and aesthetic learning.

Contemporary Insights and Questions

An increasing awareness of social-emotional development and its role in children's cognitive development calls for the joining of voices of practitioners and researchers seeking empirical evidence. Social-emotional development is seen as more than "just getting along in the blocks area." Another avenue for investigation is the examination of the power of relationships and what they look like. There are parallels in the lives of children living in the contemporary world of the 21st century to the children Robert Coles depicted in a series of studies of children beginning in the 1950s, published in several volumes as *Children of Crisis*. Postmodern and critical theory perspectives will provide new insights on children's social-emotional development. Questions remain: What will support the social-emotional development of each child now and in the future? What do children think and say about their world and how do they respond?

Implications for research, practice, and policy include an awareness among policy makers and others that children's social and emotional development

has the potential to address concerns about cognitive development and academic achievement and about the need for peaceful schools and classrooms.

Edyth James Wheeler

See also Emotional Development; Healthy Environments for Social-Emotional Development; Social-Emotional Competence; Sociomoral Development

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SOCIOCULTURAL THEORY

Sociocultural theory is an umbrella term for a range of theories that offer social and cultural lenses through which to understand development and learning. Over the past 20 years, sociocultural theories have been adopted in early childhood education in an attempt to move forward theoretically from the earlier theorizing of developmental psychologists. Sociocultural theories include a range of concepts and ideas developed from Russian psychologist Lev Vygotsky's legacy that have implications for education. In different ways, these theories tease out the mutually constitutive relationship existing between people, activities, institutions, and cultures. In this entry, Vygotsky's legacy and selected key concepts are overviewed. The entry further examines how sociocultural theories have recently diverged into two main branches: cultural-historical/activity theory and theories of participatory learning.

Vygotsky's Legacy

Vygotsky's theories of development arguably provide the most enduring legacy to sociocultural theories. Vygotsky studied the processes of development that enable humans to make meaning from appropriate culture. While Vygotsky did not study children under 7 years, his theoretical concepts have been extrapolated for early childhood by subsequent scholars and underpin many

contemporary theories of development and approaches to education.

Vygotsky believed that learning leads development and occurs in several ways simultaneously on a number of levels: ontogenetic (life span development, the focus of developmental psychology), biological and sociocultural phylogenetic (evolutionary changes in humans and cultures that impact on individual development), microgenetic (actual learning by individuals in contexts), and cultural-historical (dynamic changes across time). Vygotsky viewed development as proceeding through a series of crises resolved dialectically (i.e., resolution of contradictions and tensions), rather than age or stage related. Vygotsky's work therefore also incorporated a mesogenetic (historical and temporal) dimension in studies of development.

Within sociocultural approaches, the individual and the context together form the unit of analysis. Vygotsky discussed the role of people and cultural tools (e.g., language, semiotics/signs/symbols, artifacts, resources, and equipment), institutions, activities, and events in mediating learning and teaching. Vygotsky's focus on speech/language as the most important cultural tool, from individual words to dialogue as a unit of meaning making activity to focus on in research, brought to prominence the importance of relationships and interactions that mediate learning. Therefore when applied to education, his theory holds that knowledgeable peers and adults in multifaceted roles support children in their exploration and construction of new understandings, knowledge, and skills and their development of dispositions toward learning. In early childhood education, consideration of language as comprising nonverbal gestures and communications as part of building the relationships that support meaning making has also been a vital area for research.

Vygotsky's early writing centered on concepts such as personality, motivation, emotions, fantasy, and imagination as sources of development. Vygotsky viewed play, and particularly sociodramatic play, as a major source of development. In particular, he believed play was important in developing children's potential to behave and act above

their current age. Children's play provides a way for them to take part in the social life of the adult world before their skills are adequate for real participation. Imagined situations, symbolic actions, scripts, roles, and rules provide the mediational means for such play as children use cultural tools to interact with peers and adults. As children act out understandings of real-life behaviors (e.g., what parents do), they assume the actions, language, thinking, and emotions of the human roles they are imagining and in which they are engaging. For example, successfully playing house or playing family requires that children have knowledge of family roles and responsibilities and intersubjectivity with play partners. Play can also be an innovative expansion of understandings, a way that children both practice and transform knowledge. Vygotsky's work maintained that education should be authentic, that is, it should be relevant to the daily life and practices of a child in a community or culture. For example, he maintained that children should learn to read and write in the context of their play, rather than be taught letters in isolation of authentic language.

The *social situation of development* refers to the way internal developmental processes are determined by external conditions. These are more than resources and contexts surrounding children; they are the affordances and conditions drawn upon in self-motivated ways to actively extend learning and understanding and resolve crises and contradictions that arise. In this way, understanding meaning making is about more than thinking and speech; it involves thinking and communication more broadly. Thinking develops through motives and goals integral to social and institutional activities and practices.

Given that understanding activity was central to understanding development, Vygotsky proposed that each stage of development had a *leading activity*—an activity prominent in children's motives that could also be drawn on by adults to promote development. Emotional interactions with caregivers were viewed as the leading activity of infants; object-centered joint activity with adults, the leading activity of toddlers; sociodramatic play

the leading activity during early childhood (3 to 6 years); and learning at school was children's leading activity during middle childhood.

Externalization and internalization explain the relationship between intermental and intramental processes of learning. This is the basis of Vygotsky's (1978) often-cited statement:

Every function in the child's cultural development appears twice: first, on the social level, and later, on the individual level; first, *between* people (*interpsychological*), and then *inside* the child (*intrapyschological*). This applies equally to voluntary attention, to logical memory, and to the formation of concepts. All the higher [intellectual/cognitive/mental] functions originate as actual relations between human individuals. (p. 57)

Put simply, the zone of proximal development (ZPD) has been understood as a way of assessing what a learner can do with support rather than what he or she is able to achieve alone. More broadly, it describes developing psychological capabilities in children; therefore, applied to education, it explains the difference between children's unaided performance and performance with assistance. ZPD was used as a metaphor to represent a zone where children's everyday understandings interact with conceptual knowledge provided by mediators of learning, such as teachers. Further, the ZPD can therefore be viewed as a dynamic, creative zone during mediated interactions. In this final view, the zone can be viewed more as a zone of potential development. This may open up possibilities for responsive pedagogies within the zone and actions by adults to revisit and expand opportunities that extend children's learning.

Mediation is a relational concept that acknowledges that humans use cultural tools, symbols, practices, and artifacts to learn about the world. Explicit mediation refers to the constraints and affordances of ideas and activities from people or cultural tools for human thinking; implicit mediation refers to the role of social and inner speech as communication that assists learning. Therefore,

mediation also connects societal and cultural processes with human cognition.

Vygotsky described how children learn *everyday concepts* through participation in everyday experiences without explicit instruction. Three phases of everyday concepts occur simultaneously in young children's first meaning making attempts. Gradually, through play, language, and later instruction in school, children develop and recontextualize everyday concepts into *scientific concepts*. The task of early childhood education might then be viewed as to provide opportunities to re-create, represent, and extend the kinds of everyday experiences children enjoy, through provision of culturally appropriate curricular and pedagogical approaches.

Perezhivanie acknowledges the mutual interplay of perceptions, cognition, and emotions in meaning making/subjectivity and lived experience. While Vygotsky encouraged the consideration of many aspects of the social situation of development and meaning making that follow, he considered *perezhivanie* as a holistic phenomenon contributing to human consciousness and personality development, unable to be separated into constituent parts.

Cultural-historical theory is a term used recently by some early childhood researchers to integrate and build on the work of Vygotsky and later Russian scholars, such as Vasily Davydov (particularly his theory of learning activity based on the dialectical method of ascending from the abstract to the concrete), Aleksei N. Leont'ev (objects and activities as central to development), Alexander Luria (a focus on neuropsychology), Evald Il'enkov (internal contradictions as the driving force of change and development in activity systems), and Dimitry Leont'ev (a focus on explaining notions of meaning making). Cultural-historical theory proposes a theoretical conception of development anchored in participation in cultural practices and societal conditions. This approach pays simultaneous attention to children, adults, and cultural practices and activities in analyzing children's development and learning. The theory highlights motives, demands, intentions, goals, and engagement.

Mariane Hedegaard tackled the notion of stages common in developmental theory. She replaced this with the word *trajectories* to examine in a more complex manner the kinds of crises Vygotsky linked to points in development that are prompted by participation in the practices and interactions of cultures. In this way, a richer conceptualization of development is posited, and children can be viewed as competent and capable participants and active contributors to their development.

Development of Sociocultural Theories

An abundance of sociocultural theories has developed with different disciplinary foundations, emphases, and terminology. These theories have helped theory and research move beyond psychological generalizations to understanding culturally specific beliefs and practices important to children's development. Overarching names for the plethora of sociocultural theories include *activity theory* and *cultural-historical activity theory* (CHAT), *social constructivism*, and *participatory learning/intent community participation*. These theories have developed Vygotsky's ideas by enabling researchers to focus on sociocultural activity as the unit of analysis and emphasizing the learning inherent in any context. Simultaneous attention to children, adults, and cultural practices and activities occurs in analyzing children's development.

Activity theory was an early response to Vygotsky's ideas that was consistent with its Marxist foundations in collective consciousness and the historical, social, and economic conditions of cognition and action. Activity theory goes beyond explaining individual development to draw attention to the mutually constituting nature of activities, actions, and systems in different settings as influences on development. Yrjö Engeström and colleagues have developed this approach by focusing on the complexity of human activity in differing contexts (exemplified in teams and workplace organizations), and the multiple interpretations of activity that different tools and practices encourage. In addition, they usually include a formative intervention in their research design, that is, a

research-based professional learning and development element that works alongside professionals to examine and improve practices.

Activity theories emphasize practical activities and cultural practices in shaping learning. Three generations of activity theory have evolved. The first generation derived directly from Vygotsky's ideas about tools, signs, and mediated action to consider dialectically individual and social experience as the unit of analysis. The second generation focused on an object-oriented activity system as the unit of analysis. Analyzing collective activities is very demanding as these represent complex phenomena in constant change and contradictions. For example, a child at play is connected to the activities provided in the educational environment; both of which are related to teacher(s), parents, child peers, and other contributing objects, activities, and people. Therefore, the third generation of activity theory has identified multiple interacting activity systems, connected by partially shared objects, as the unit of analysis.

Many key concepts underpin activity theory: activity system/s as the unit of analysis, multi-voicedness, historicity, contradictions as a driving force of change in activity, expansive cycles as possible forms of transformation in activity, object, mediation, ZPD, sense and meaning, internalization and externalization, transformative agency, double stimulation, ascending from the abstract to the concrete, and formative intervention. Each of these is a major theoretical concept to develop and use in research that aims at improvement, transforming and emancipating people in their collective activities. These concepts have been applied in developmental work research (DWR) that has explored the activities of a range of institutions, including schools and early childhood education settings.

Cultural-historical activity theory (CHAT) is often used as a term interchangeably with activity theory. However, it appears to have developed from activity theory and cultural psychology. Cultural psychology is a systems model that views context as the most important system contributing to making meaning as a focus of development. It

posits that specific descriptions of culture are vital to understanding explanations of development and children as active learners within cultures. CHAT also has a temporal dimension whereas activity theory is somewhat synchronic. CHAT's focus is on the incorporation of the collective into the individual consciousness and on studying ways externalizing features become internalized through processes of mediation. In this way, it seeks to explain how people become competent, knowledgeable, and able to act on their worlds. Hence the concept of agency has become important. This development is central in Anne Edwards's work on relational agency that has been taken up in early childhood education as educators proactively negotiate and share expertise with other professionals they interact with in their work with children and families.

Participatory and Community Learning

Participatory learning theories highlight ways everyday activities in communities and cultures contribute to development. These theories draw on three branches of sociocultural theory. The social-constructivist branch of sociocultural theory highlights adults and children engaged in pedagogical relationships whether their activities are designed to be educational or not. The activity theory branch emphasizes the culturally specific nature of the objects and practices with which children are involved. The cultural-historical branch ensures the perspectives of the participants, including adults, and the sociocultural contexts, motives, demands, and constraints of the activities and practices are respected during interpretation. Critically, participatory theories draw on sociological and anthropological disciplinary foundations alongside Vygotskian concepts for research approaches and analytical constructs. These theories have also served to move narrow understandings of culture focused on ethnicity and identity as influencing development to more complex and integrated definitions that intersect with these categories in particular contexts. These theories foreground the importance of recognizing

and building on children's family, community, and cultural learning and knowledge and therefore contribute to approaches to education that value these factors. Motivation is intrinsic to achieving real participation goals.

This work derives extensively from the research of North American scholars such as Luis Moll, Barbara Rogoff, and their colleagues. Although Vygotsky is credited with drawing attention to culture in learning, he did not provide a definition. Rogoff defined *culture* as accepted, routine ways of carrying out everyday activities and processes, which change over time due to shifting technologies and practices. These practices are often tacit and therefore both powerful and often overlooked for their importance. Culture has become a broad concept for attempts to help explain people's participation in overlapping cultural communities as they develop their own repertoires of practices—practices that are familiar and encourage individuals to approach learning in known ways and make connections between contexts. However, sociocultural theoretical explanations do so without implying that cultures are cohesive or necessarily share values and practices.

Participatory theories also emphasize the motivation children have to participate in activities valued by their families, communities, and cultures. Children participate intently to learn valued knowledge, skills, and practices in ways specific to their communities. Intent community participation highlights the cultural-historical and collective nature of learning. These theories highlight the dynamic patterns of interactions and engagements found in everyday life; some are followed, some resisted, and some transformed through participation to become expectations for the next generation.

Concepts such as legitimate peripheral participation, communities of learners/practice/inquiry, and intent community participation highlight that learning occurs informally in relationships and activities not necessarily designed to be pedagogical. These theories emphasize that development occurs through a process of participation in cultural communities that have different values, expectations, and technologies. Similar to other

branches of sociocultural theories, all learning and knowledge construction is situated, or otherwise understood as mediated by social relationships, activities, cultural tools, and practices. These mediating factors also change over time; thus, learning is viewed as a process of transformation of participation (i.e., as people participate in cultural practices, both the people and activities and practices change) that has personal, interpersonal, and cultural-institutional impacts.

Development is also guided by variations in goals that “prioritize learning to function within the community's cultural institutions and technologies” (Rogoff, 2003, p. 23). For example, different expectations of children occur as a result of different technologies and practices; Rogoff's work has highlighted that self-care and care of younger children occur at a variety of ages in different South American cultures, often much earlier than many Western countries might expect and in contrast with other non-Western countries and cultures where children remain dependent on adults until school age.

Rogoff and Moll's research in families and communities has done much to challenge deficit views of families and see them as rich in knowledge and capacity. One specific application is that of funds of knowledge (FOK). As a theoretical concept FOK values the everyday knowledge of families related to matters such as economics, household maintenance, literacy, and the arts, and further values the participatory relationships within which this knowledge is learned. Methodologically, FOK involves teachers visiting family homes to learn about the cultural activities and practices that encourage this knowledge. For example, children might observe a parent writing a shopping list or reading a recipe. In this way, children develop early knowledge of literacy embedded in specific family routines and practices. The pedagogical goal of a FOK approach is to recognize and incorporate family-based knowledge and expertise in educational settings in order to improve outcomes. In this way, participatory theories are able to begin tackling a political agenda concerned with power and structures that

resonates with the social justice imperatives common to early childhood education.

Helen Hedges

See also Child Development and Early Childhood Education; Cultural Diversity; Determinants of Child Development; Funds of Knowledge

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SOCIODRAMATIC PLAY AND SARA SMILANSKY

Preschool children often engage in the enactment of scenes pretending to be a mom, dad, baby, or superhero. This kind of play is described using various terms, including *dramatic play*, *pretend play*, *imaginative play*, *fantasy play*, *symbolic play*, and *role play*. When this kind of play happens with two or more children, it is referred to as sociodramatic play. In other words, sociodramatic play refers to pretend play in a social context. This entry examines the importance of sociodramatic play and pays specific attention to the theoretical and clinical contributions of Sara Smilansky. This

entry further outlines the characteristics of sociodramatic play and explores its developmental benefits. Finally, the entry examines approaches to sociodramatic play training.

Sara Smilansky and Sociodramatic Play

The term *sociodramatic play* was used and disseminated widely by Smilansky. Smilansky was a chief research psychologist in the Szold National Institute for Research in Behavioral Sciences in Israel and was also a professor in the Department of Psychology at the Tel Aviv University in the 1960s. She received a doctoral degree from the Ohio State University in clinical and educational psychology. Based on Jean Piaget's theory relating to play, Smilansky developed the four stages of play development, which is widely used in understanding children's sequential levels of play. This hierarchical stage model includes functional play, constructive play, dramatic play, and games with rules. Sociodramatic play is placed at a higher level of play development and was recognized as having cognitive benefits and maturity. Critics of the play scheme, such as professor Peter Smith at the University of Sheffield, criticize this hierarchical play stage model for a lack of inclusiveness of the scheme and argue that constructive play is not less mature than dramatic play.

Smilansky was interested in studying differences in sociodramatic play between children from higher socioeconomic classes and those from lower socioeconomic classes. She found that the children from disadvantaged homes often display a lack of sequence in their behavior, and showed repetitious and disconnected activities in sociodramatic play. She believed that training for sociodramatic play would be a way to help these children to be more flexible, creative, and elaborate in their behavior. Guided by her belief, she devoted herself to developing sociodramatic play training for disadvantaged children and conducted the first large-scale play training study. The training significantly improved disadvantaged children's play. Her play training is written about in detail in her book *The Effects of Sociodramatic Play on Disadvantaged Preschool Children*. The book was published in

1968 and has influenced further studies on dramatic play in the United States.

James F. Christie, a professor at the Arizona State University, researched and expanded Smilansky's play training in the early 1980s. Between the late 1970s and early 1990s, sociodramatic play gained considerable attention from early childhood researchers and psychologists in the United States. More recently, sociodramatic play has been supported by Vygotskian researchers, such as Elena Bodrova and Deborah Leong, and is recognized as an essential part of their Tools of the Mind curriculum that is based on a Vygotskian understanding of children's cognitive development.

In recent decades, sociodramatic play has been an important part of daily schedules in preschool and kindergarten in the United States. Many early childhood classrooms have dramatic play as an essential center for children to choose during free play time. However, since the standards movement toward academic outcomes has impacted early childhood education, many early childhood classrooms have reduced or removed free play time. As a result, dramatic play centers were one of the activities that quickly disappeared from kindergarten classrooms, and sociodramatic play was deleted from many kindergarten curricula. Early childhood educators today express concern about the lack of opportunity for children to engage in sociodramatic play. Based on current and continuing understanding of child development and children's approaches to learning, frequent calls are made for sociodramatic play to be reconsidered in contemporary early childhood education.

Characteristics

Sociodramatic play is known as a higher form of play demanding complex thinking skills, such as symbolic and abstract thinking. In order to engage in sociodramatic play successfully, children need to practice many skills. Smilansky presented six elements that can be used to evaluate well-developed sociodramatic play.

- The first element is taking on a make-believe role. A player takes on a make-believe role and

imitates the action and/or verbalization. For example, a child says, "I am a waiter" and pretends to place water glasses on a table.

- The second element is make-believe with regard to objects. A child pretends that one object is another item. For example, a child holds a pencil and pretends to cut a cake, using the pencil as a knife.
- The third element is make-believe with regard to actions and situations. A child pretends the actions of the role he or she is taking on. A child pretends to take care of a baby by rocking a doll and feeding it with a bottle.
- The fourth element is persistence. High-quality sociodramatic play can be sustained for longer periods of time. Children continue to play the same episode with some variation for a certain period of time that increases with the complexity of play themes and activities.
- The fifth element is interaction. Two or more children interact socially during the play episode, conversing about the play theme, and sometimes assigning roles.
- The sixth element is using language to communicate during the play. Children verbally communicate with each other during the play episode. Communication is a key to carrying out their play episode. If a child wants to pretend play about a restaurant and wants to invite other children, the child could say, "Welcome to our restaurant. What would you like to order?" and assume the role of waiter within the play, or directly ask, "Do you want to play restaurant?" and not assume the role.

High-quality sociodramatic play includes all six elements. It is notable that research suggests that children need at least 30 minutes to engage in high-quality sociodramatic play. Longer time allows children to explore their ideas and plan their play episode.

Developmental Benefits

The value of sociodramatic play can be found in all areas of development, including cognitive development, social-emotional development, and language and literacy development.

Sociodramatic play allows children to explore, experiment, and create their understandings of characters, events, and objects. For example, to pretend a restaurant theme, children collect their own experience and knowledge about what happens at the restaurant and create a mental picture or schema (organized thought) to act out what they know about restaurants. Children pretending to be a chef need to understand the role of a chef in the restaurant, select actions to imitate the chef, and learn to concentrate on the role. They also need to understand the role of other children and react appropriately to the context. They learn to control themselves and discipline their own actions in relation to the context. They learn flexibility in their approach to various situations that other children create because other children's experience with restaurants may be different from their own. With repeated play, successful sociodramatic play continues to expand and change with additional experiences and knowledge.

Cooperation and social interaction are essential in successful sociodramatic play. Children need to understand the roles they are playing as well as the roles of other people. They need to cooperate with each other and negotiate any problems that might happen during the play. Sociodramatic play provides a context for children to learn and practice their social skills. If they fail to cooperate or negotiate, they are not welcomed by other children and can be left out of the play. Children need to consider the perspectives of other players. For example, during restaurant play, players must negotiate the direction of the play episode. They need to negotiate who will be chefs, servers, and customers. The chef needs to maintain the role of chef. If the chef acts as a customer, players will address the problem and have to find a way to resolve the issue to continue their play, or the play will stop. Players can suggest that that is not what the chef does and the chef must accept others' suggestions.

Another benefit is the development of self-regulation skills. Lev Vygotsky, a Russian psychologist, placed a special emphasis on sociodramatic play as a way to achieve self-regulation—the ability to control one's impulses and adapt and behave

according to social norms. More recently, developmental psychologists Cynthia Elias and Laura Berk at the Illinois State University reported that sociodramatic play is advantageous for impulsive children to develop self-regulation skills and essential to later expectations of appropriate school behavior.

Sociodramatic play also contributes to the language and literacy development of children. Dramatic play and language and literacy learning share the same basic cognitive mechanism, symbolic representation. Language and literacy learning involve understanding abstract symbols representing other concrete objects and actions.

Dramatic play also requires children to understand the make-believe situation through use of symbolic thinking. Understanding that the word *apple* represents a kind of fruit shares the same underlying cognitive process as when a child pretends a block is a telephone. Both dramatic play and language and literacy learning are based on understanding symbolism. A body of research studies found that dramatic play facilitates children's emergent literacy and provides a natural context to develop children's awareness of concepts of print, oral language, and writing. When the dramatic play center includes literacy materials such as environmental print, labels, books, and writing materials, children experiment with these literacy materials naturally while they are playing. In restaurant play, for example, they might pretend to read a menu, write an order on a note pad, or print their names as part of their play, thus learning literacy in more enjoyable and developmentally appropriate ways. Language and interaction are two essential elements of sociodramatic play. Children improve their oral language skills and learn new vocabulary as they engage in pretend play. Adults' intentional support is important in learning language and literacy during play. The following section outlines the strategies Smilansky developed for adults to support children's sociodramatic play.

Sociodramatic Play Training

Whether and how adults need to be involved in children's play has been debated. However, recent

research has shown the benefits of adult involvement in play. According to Smilansky's play training, there are two basic types of sociodramatic play training: (1) inside intervention and (2) outside intervention. Inside intervention is an active coplayer role (when an adult takes on a role and participates in play with children). Adults demonstrate a model of high-quality sociodramatic play by exhibiting all six characteristics of sociodramatic play outlined by Smilansky. Inside intervention is a more direct way to teach children the tools for high-quality play. For example, in doctor play, an adult may take on the role of doctor with the children pretending to be patients. In the doctor role, adults act out what a doctor might do and say. Later, children can take on a doctor role, and they can begin by imitating what they learned from the teacher playing that role.

Outside intervention is applied when adults remain outside of the play episode and make comments or suggestions to children when the play seems to need some direction. For example, if children in a restaurant play seem to order the same food repeatedly (e.g., pizza), the adult might suggest that they order different kinds of foods, such as spaghetti or salad. This will encourage children to use different materials and different actions. When adults use outside interventions, it is important to address comments to the role that the child is playing instead of the child's real identity so that he or she can continue to be in a make-believe situation. Outside intervention is less intrusive to children's play. It is recommended to begin with outside intervention and assess for effectiveness before applying inside interventions.

Adults can also take on a variety of roles to support sociodramatic play, such as onlooker (being an appreciative audience), stage manager (helping set up the play), coplayer (role playing), or play leader (active role of role playing). All of these strategies are known to support and encourage children as they engage in sociodramatic play.

Myae Han

See also Constructivism; Peers and Play; Play, Curriculum, and Pedagogy; Play and Early Childhood Education

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SOCIOMORAL DEVELOPMENT

Sociomoral development reflects children's social understanding of sociomoral events, which are events that focus on the prescriptive limits of interpersonal behavior, such as events involving the victimization of others or the following of social conventions. Research shows that children can distinguish between events that are straightforward social conventional and events that are straightforward moral. In early childhood, however, children have trouble coordinating events that involve multiple competing factors such as when conventions might compete with moral principles. This entry provides an overview of social development theory that drives research on sociomoral development in early childhood, and it reviews research findings documenting judgments and reasoning about sociomoral events, as well as the implications for this research in promoting sociomoral development in early childhood classrooms.

Overview

Children's judgments and reasoning about sociomoral events have been studied by Jean Piaget and Lawrence Kohlberg. Both have proposed

stagelike theories of development, in which preschoolers are described as being focused on avoiding punishment when making judgments and reasoning about sociomoral events. These theories assume that moral principles are acquired gradually with age, and that moral reasoning does not appear till much later in development. More recent research by Elliot Turiel and colleagues, however, documents more than 40 years of empirical findings showing that children from as early as 1 and 2 years of age are aware of moral rules concerning others' welfare and fairness as well as social conventional rules concerning traditions and conventions that are sanctioned by authorities. In addition, by 2 years of age, children use moral reasoning when asked about the acceptability of straightforward sociomoral events, such as hitting and stealing. Thus, children show concerns for the welfare of others from a very early age. Children construct their knowledge about sociomoral events and how to respond to them through reciprocal interactions with adults and peers, as well as by trying to resolve social conflicts and problems in everyday life.

Research

Research findings show that mothers and teachers apply rules and commands in ways that differentiate between moral and social conventional rules and situations. Children also experience social interactions in many different ways. They experience moral events as victims, victimizers, or bystanders, while they experience social conventional situations in the context of norms and rules, such as those that help a classroom run smoothly. By age 3½ children begin to distinguish between events that violate straightforward social conventions (e.g., talking out of turn) and events that violate moral principles (e.g., hitting a peer). Children, as do adults, consider that moral rules, unlike social conventional rules, are applicable in the absence of authority sanctioning and are generalizable to other contexts and cultures. In addition, by age 3, children can also distinguish between social and moral situations

and those that are personal (e.g., choice of clothing and friends).

While some sociomoral events are straightforward (i.e., either just morally relevant, or just related to social conventions, or just a matter of personal choice), most sociomoral events are multifaceted and require children to coordinate between multiple concerns to resolve them. For example, sharing blocks equally among friends is fair but might come at a cost to a personal preference of having more blocks. Five-year-olds begin to demonstrate the ability to coordinate between competing concerns. This may be partially explained by children's competence in theory of mind—the ability to understand that others have desires, knowledge, and beliefs that are different from one's own desires, knowledge, and beliefs. Theory of mind develops at around 4 to 5 years of age. At this age, children are more likely to understand that those who commit a moral transgression may have different beliefs, and children use that knowledge to assess whether a transgression is acceptable or not. Three-year-olds, on the other hand, judge moral transgressions to be unacceptable irrespective of what they know about the transgressor's beliefs or intentions. Theory of mind ability allows children to incorporate others' intentions, desires, and beliefs into their moral judgments and reasoning.

In addition to theory of mind abilities, children's affective experiences may influence how they remember, process, and understand moral transgressions. Emotions, therefore, play a role in how children evaluate moral transgressions. When responding to moral or conventional transgressions, studies show, teachers and parents use affect in different ways, focusing more on the emotional repercussions of moral transgressions such as harm inflicted on the victim, than when social conventional transgressions are committed. In early development, children view moral transgressions as emotionally negative while social conventional transgressions are viewed as emotionally neutral. Research has shown that children as young as 4 years use information about their own emotions and what others feel to infer whether sociomoral

events are morally relevant or not. Preschoolers, however, tend to attribute positive emotions to those who morally transgress although they recognize that victims of the transgression would feel bad. With age, typically developing children begin to expect transgressors would experience negative emotions (such as guilt, anger, and shame) after inflicting harm onto others.

Implications

The research findings have multiple implications for applications in the home and in the classroom. Early sociomoral development occurs in trusting and fair environments that encourage children to apply their concepts of fairness, human welfare, and rights to everyday life issues that come up in both interpersonal relationships and societal practices. Caregivers and teachers who aid children in their coordination of multifaceted sociomoral events by highlighting components that are moral and those that are not and encouraging children to take multiple perspectives help children develop an ability to navigate sociomoral events. In addition, research on moral education has shown the benefits of environments that encourage moral discourse, as well as reflections on the motivation for a transgression, the feelings of those involved, and the consequences of actions on others. Reciprocal social interactions are essential opportunities for children to experience sociomoral events and resolve conflicts that may arise from them. Thus, caregivers, teachers, and schools foster children's sociomoral development by providing safe and positive environments for children to engage in social interactions with both adults and peers.

Aline Hitti

See also Emotional Development; Moral Development; Theory of Mind

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SPATIAL DEVELOPMENT

Many words have been used in the early childhood literature to describe spatial development, including such terms as *spatial cognition*, *spatial literacy*, *spatial concepts*, and *spatial intelligence*. Spatial development is often referred to and characterized in early childhood literature as the ability to problem solve operations. These operations are mental rotation, a spatial skill that involves thinking about objects in different spatially oriented ways (e.g., seeing wheels on gears go in different directions); perspective change (the visualization of objects from different perspectives such as producing a mental image of objects from two points of view), and coordinated use of space (coordinating how space is utilized in relation to another space such as organizing blocks in a given space); representation (depicting by image an object or place on a map); and reasoning (the ability to understand and explain how items are arranged in space and in relation to one another). These definitions have been modified in the literature and assessed in various ways to promote an understanding of spatial development.

Spatial development has been identified as a key component in STEM disciplines (science, technology, engineering, and math) and also the arts. High-quality studies conducted over the last

century indicate that spatial thinking is critical to STEM success. Although many of these studies were conducted with high school students, recent reports have shown that early attention to developing spatial thinking could promote interest in STEM fields. This entry is devoted to current findings from the research and curriculum to promote spatial development.

Research

It is thought that some biological processes could account for the reason boys score higher on spatial development assessments than girls. Researchers have been inconsistent in what age the differences in gender exist. The question has been raised whether experiences playing with certain toys could account for boys scoring higher than girls. Some of the major research results specific to spatial development have been the following:

- Boys play more frequently with blocks, manipulatives, puzzles, balls, and transportation toys than girls do.
- Boys tend to score better than girls on spatial tests.
- With practice in spatially challenging environments and curriculum, girls can make gains in spatial development.

Methods for Increasing Spatial Development

Various methods for increasing spatial development in young children have been recognized: gestures, visualization, diagrams, grids, block playing, mapping, computer games, puzzles, children's stories, appropriate vocabulary, and practice. Using gestures is one way of helping children increase spatial understandings. This method involves having children talk and gesture at the same time so that information can be captured by children who may not be able to verbalize without gestures. Visualization provides learners with information to promote problem solving in the spatial field. For example, helping children

visualize what happens when a ball is rolled down two ramps of different sizes encourages the child to think about spatial relations.

Diagrams and grids also help the child develop spatial orientation. Block playing with different types of blocks promotes spatial and geometric vocabulary development and problem solving. Mapping skills help children orient themselves in space. Mapping is facilitated by the learning of routes in the classroom, the school, and the neighborhood that are basic to the understanding of spatial skills. Teaching children landmarks to follow is an important part of mapping.

Computer games can assist the child with manipulations in different spatial orientations. Computer skills can aid metacognition, visualization, and conceptual thinking. Puzzles help with mental transformations, matching shapes, and problem solving. Puzzle play should include regular puzzles as well as tangrams and other geometric shaped puzzles. A tangram is puzzle that has seven pieces that can be fitted together to make a square.

Children's stories can be a source of drama and an understanding of spatial words as well as an impetus for block construction. Vocabulary enrichment can utilize "spatial words" such as *on/off*; *on top of*, *over*, *under*; *in*, *out*, *into*, *out of*; *top*, *bottom*; *above/below*; *in front of/in back of*; *beside*, *by*, *next*; *between*. Children also can learn "direction words" such as *up*, *down*; *forward*, *backward*, *around*, *through*; *to*, *from*; *toward*, *away from*; *sideways*, *across*. "Relative distance words" can be used to develop concepts such as near, far, close to, and far from. Practice in thinking geometrically and spatially should be an important part of the school day utilizing all curriculum areas in early childhood.

Curriculum Models That Emphasize Spatial Development

Friedrich Froebel, the father of kindergarten, established a kindergarten that provided a spatial challenge. Froebel, a trained mathematician, architect, and mineralogist, utilized *gifts* (objects that represent symbolic ideas and can be used for

construction, design, and math and science). In addition, he used handiwork activities, called *occupations*, that can be used in conjunction with the *gifts* such as sewing, perforating, braiding, paper folding, paper cutting, and clay modeling. The geometric abstractions of the work of students in Froebel's schools are seen in the work of architect Frank Lloyd Wright, the Bauhaus designers, and the geodesic dome of Buckminster Fuller. Maria Montessori also promoted spatial development with a large assortment of geometric blocks and geometric shapes. The Reggio Emilia schools of Italy have emphasized the keen study of art with perspective in their long-term projects. The Asian countries have had a history of paper folding and tangram puzzle use to promote geometric concepts. Contemporary researchers Doug Clements and Julie Sarama have helped develop a preschool curriculum that has been shown to improve mathematics and spatial development in young children.

Mary Jo Pollman

See also Cognitive Developmental Theory; Multiple Intelligences; Science

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SPECIAL NEEDS

Special needs is a term that is used generally to describe anyone with a physical, cognitive, or mental disability, challenge, or delay. Depending on the audience or the discipline, the term can have varied meanings and applications. When referencing issues that are completely medical in nature, more specific phrasing will be used, such as the term *special medical needs*. This category is typically used when referencing diagnoses such as hemophilia and epilepsy.

Within the foster care/adoption system, the term *special needs* has a much broader definition. With regard to adoption, it is a legal term applying to those eligible for federal financial assistance. This can include those individuals with disabilities but also includes other demographic factors such as age, ethnicity, and membership in a sibling group.

Although there are these additional uses, the term is typically linked to education and is often considered an abbreviation for special education needs. It is frequently used in reference to children and encompasses everything from blindness to cerebral palsy to dyslexia. The term is used when the actual diagnosis is known, such as with a child with an autism spectrum disorder, and in cases in which there is no definitive diagnosis. The term does not denote severity of involvement, but rather references the need for additional supports of some kind in order to participate in education broadly. In order to fully understand the concept, it is important to understand how it is and is not used, the legal ramifications and applications of the term, and the innovative practices that impact those for whom this term applies.

This entry discusses the language used when discussing children with special needs and laws regarding children with special needs, including legislation dealing with the education of preschool children. It then discusses technology that can be used with young children with special needs and advances in research on children with special needs, their development, and educational interventions.

SPECIAL EDUCATION

See Early Childhood Special Education

Other Terminology and Person First Language

The phrase “children with special needs” is currently the preferred phrasing by educators, advocates, and parents, rather than “children with exceptionalities” or “children with disabilities,” although these phrases remain common in earlier publications and legal documents. Consistent in this phrasing is “children with.” This approach to terminology is referred to as *person first language*. The premise behind this concept is that the ordering of the words suggests importance. Thus if the terminology for the diagnosis is placed before the word *child*, the focus is on said diagnosis rather than on the child. When the word *child* or *individual* is placed before the diagnosis, it recognizes that the child is a child first and also has a disability or special need. This is typically generalized to specific diagnoses as well, so the preferred phrasing is “child with Down syndrome” rather than the Down’s child or the special needs child.

The Laws

The term *special needs* is inextricably linked to special education as it evolved from the concept that there were children who had educational needs that were different from their typical peers due to biological and/or environmental factors. As such, it is important to understand the evolution of the laws that serve to regulate how these children and their families are identified and served.

Although the existence of adults and children who are differently abled has been documented as early as the existence of the written word, the rights of these individuals are relatively new in the United States and continue to evolve globally. This is particularly true with regard to educational rights. There are millions of children with special needs around the world, but their access to education and resulting acceptance into society is inconsistent at best. This struggle is amplified in countries with high levels of poverty in which, according to the United Nations, 98% of children with disabili-

ties do not attend school in any form. In 2006, the United Nations held the Convention on the Rights of Persons with Disabilities (CRPD) and produced an international document outlining a structure for the human rights of individuals with disabilities. The CRPD emphasized education as a priority for children with special needs including calls for inclusion, education in typical settings, and with typical peers.

In the United States, the first special education law passed by Congress in 1975 was entitled the Education for All Handicapped Children Act (EHA). EHA or Pub. L. 94-142 was groundbreaking legislation and required a free and appropriate public education (FAPE) for all students with disabilities. This law was later renamed the Individuals with Disabilities Education Act (IDEA).

In 1986 Congress passed Pub. L. 99-457, the Education of the Handicapped Act Amendments. This seminal piece of legislation expanded the provisions of Pub. L. 94-142 to include services for infants, toddlers, and preschool children with special needs and their families. This was a dramatic shift and recognized the importance of early intervention. These laws expand the concept of FAPE and require states to make available appropriate and free public education to children ages 3 through 5 with special needs. The law also created an incentive system in which states that offer interdisciplinary educational services to infants and toddlers with special needs and their families receive federal financial grants. This law is consistent with and advanced the concept of family-centered practices in early intervention, and it recognized the unique nature of early intervention.

Additional language that is included in these provisions involves related services. Related services are a part of special education that includes services from professionals from a wide range of disciplines that are often outside of what is typically considered education. Although these services are available to children of all ages, they are particularly relevant for young children as we know that delays or issues in one developmental domain can

impact other areas of development. These professionals commonly include but are not limited to occupational therapists (OTs), physical therapists (PTs), speech-language pathologists (SLPs), school psychologists, and social workers. Depending on the needs of the child, augmentative communication specialists and board certified behavior specialists may also be included.

The goal is for these individuals to work together to address the educational needs of each child. There are a variety of models for how these services are delivered and how these professionals work together. In a discipline-specific service delivery model, one professional provides services to the child within his or her domain of expertise. For instance, a child who is dysfluent might work only with a speech therapist. A multidisciplinary approach involves a group of professionals. Although there are many professionals involved in this approach there is often little or no communication among the professionals, each implementing his or her intervention separately from the others.

Interdisciplinary teams also have more than one profession represented and in these cases there is a significant amount of communication between the professionals. They share intervention plans and often work in tandem with the child. The most collaborative teams utilize a transdisciplinary model. These teams plan together and often engage in role release. For example, the speech therapist will train the occupational therapist so that he or she can implement speech and language techniques while engaging in OT activities. Although the individual therapists remain the experts in their particular domain, they infuse this expertise into other aspects of the child's programming and assume partial responsibility for implementing the interventions from the other domains as well.

An individualized education program (IEP) is a written plan used to document an individual student's current level of development and his or her learning goals. The IEP is required by law for children ages 3 and up with special needs and outlines the specific accommodations, modifications, and

related services that a student might need to attend school and to receive reasonable benefit from that educational experience. For very young children, those under 3, an individualized family service plan (IFSP) is created to record and guide the early intervention process. This document is written to reflect individual concerns, priorities, and resources for infants and toddlers with special needs and their families.

Technology

The general field of education is growing and changing at a rapid pace. The emphasis on technology has been at the forefront of these discussions, and technology has certainly had an impact on children with special needs. Assistive technology refers to any device or application that allows an individual to perform a task or engage in an activity that he or she would otherwise be unable to do or would have had a great deal of difficulty accomplishing. The underlying concept is that the effective use of these devices yields greater independence for those utilizing them.

Assistive technology devices or apparatuses can be used to address challenges in any developmental domain including, but not limited to, wheelchairs or talk-to-text devices for physical impairments and augmentative communication systems for communication disorders. Although the term includes the word *technology*, the applications can be either high or low tech. Computer-generated voice-output devices are considered high tech while picture exchange systems are considered low tech. Both are used with young children who are unable to communicate effectively through verbal means.

Research and Innovation

Innovation approaches and research foci regarding children with special needs have changed dramatically in recent years. Research in the effectiveness of educational interventions for children with special needs has produced very promising results in improving the lives

and the developmental trajectories of these individuals; however, advances in medicine and psychology are poised to drastically change how we view these children, particularly those with special needs of known or identified genetic etiology.

Etiology refers to the cause of something, in this case the reason for the delay or developmental concern. Etiologically specific information regarding disability-specific profiles and developmental trajectories has exploded during the past decade. Advances in the fields of psychology, education, and medicine have been extensive but to date have worked within silos, thus limiting collaboration and the sharing of information. Translational research, or the use of information from pure science in clinical settings, is beginning to bridge this gap.

Phenotypic profiles for children with known etiology can often provide clinicians and educators with a framework from which to begin interventions or therapies. Although each individual by definition is unique, for children with special needs of known etiology, the interventionist does not need to start from an uninformed position. It is important to note that although the emphasis is often on education, the essential information on the conditions of these children resides outside the field of education. It is important to open a dialogue about the issues regarding effective assessment practices and current concerns and then to share available information.

In parallel with the advances in etiologic and phenotypic profiles have been advances in understanding the neurobiology of specific genetic disorders such as Down syndrome and fragile X syndrome. Once the chemical pathways in the brain had been identified, biochemists and pharmaceutical researchers began creating medications or targeted treatments designed to restore the compromised neurological pathways and structures. The use of these targeted treatments is very new but could quite possibly change the way in which individuals with special needs receive treatment.

Karen Riley

See also Assistive Technology in Early Intervention; Early Childhood Inclusion; Family-Centered Practices; Identification of Special Needs; Transdisciplinary Collaboration

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SPEECH DEVELOPMENT

Speech development is the process that begins at birth and continues through adolescence when children learn to use sounds and words to communicate meaning and develop the prerequisite skills to early literacy. Children reach milestones in speech development in predictable stages typically by 6 years of age with variations in the rate they acquire speech sounds and speak their first words. Normal human speech is produced with air pressure from the lungs that causes phonation within the larynx, or “voice box,” that is subsequently modified within the vocal tract through the coordination of muscle action of the tongue, jaw, and lips to produce the different vowels and consonants that make up language.

Phases and Sequence of Speech Sound Acquisition

Ken Bleile identified four phases of speech sound acquisition highlighting the prerequisites for speech sound production, transitions from sounds to words to speech with mastery of literacy.

Phase 1—Laying the Foundations for Speech

This first phase occurs from birth to 1 year and it is during this phase that the vocal tract or oral motor mechanism makes significant changes. The structure of an infant’s vocal tract is initially geared for survival; its sole function is the coordination of breathing, sucking, and swallowing in order to take in nourishment. The articulatory movements of the vocal tract components mature in a typical sequence beginning with the jaw and lip movements, which become almost adultlike prior to a child’s second birthday. On the other hand, the tongue’s adaptability and its highly variable articulatory movements in position/contact with the palate can make significant transformations and refinement with changes occurring in children up until the age of 11 years. Infant perception is another important foundation in speech acquisition, and it is during this phase that infants sharpen their ability to recognize

and respond to auditory stimuli and discriminate between voices, speech sounds, and environmental noises and sounds.

Phase 2—Transitioning From Words to Speech

The second phase occurs from 1 to 2 years of age, when children are typically producing their first 50 words. Pronunciations are limited in complexity with consonants produced at the front of the mouth (e.g., /p, b, d, t, m, n/) predominating. First words also follow a sequence of simple to complex consonant (C) and vowel (V) combinations, beginning with consonant–vowel (CV) patterns as in “moo,” vowel–consonant (VC) patterns as in “up,” CVC words as in “bat,” and CVCV patterns as in “bunny.”

Phase 3—Growth of the Inventory

From 2 to 5 years of age, children are continuing to build their speech sound inventory. Intelligibility, the ability to be understood, becomes an important consideration especially because it can be affected by multiple linguistic factors such as articulation of phonemes (speech sounds), phonological processes, and prosody (aspects of sound production to include stress, intonation, and rhythm).

With typical development, the acquisition of speech sounds follows a predictable pattern from easiest to most difficult. The first set of speech sounds considered to be the easiest to produce are typically acquired between the ages of 1 and 3 and they include m, p, b, d, n, w, h, and y. The middle group, acquired between the ages of 3 and 6½, includes the sounds t, k, g, f, v, ch, j, and ng. The final and “later” set of sounds to be acquired are sh, s, voiceless th (as in “thumb”) and voiced th (as in “them”), r, z, l, and zh. Children vary in their development of speech and language skills with the most intensive growth occurring within the first 3 years of life. There is a wide range of what is considered within typical limits when children are learning to use different sounds, speak their first words, and build their vocabulary repertoire. The normal progression of speech milestones is explained in the following sections.

Birth to 3 Months. The first signs of communication are the cries of infants to express discomfort. They soon learn to vary their cries in order to be held, fed, or comforted as well as to make pleasure or cooing sounds when they are content.

By 6 Months. Children will imitate environmental noises or produce vowel sounds. They will babble in vocal play when happy or excited, will experiment with the sounds they hear, and will begin producing early speech consonants involving closed-lip postures such as /m, p, b/.

By 9 Months. Between 6 and 9 months, children begin to babble reduplicated syllables (e.g., baba) and use long and short patterns in vocal play. They will shout to gain attention, use a gesture for bye-bye, and gesture with lifted arms with or without a vocalization to request to be picked up by a parent. Consonant-vowel patterns with /p, b, m/ consonants are produced in their babbling.

By 12 Months. As children approach their first birthday, they typically have a vocabulary of approximately three to four words that they use consistently. These words are typically names for a parent or caregiver (e.g., Mama, Dada) or words to request (e.g., baba for “bottle”), and so on. They gain attention with sounds (other than fussing), and combine sounds in vocal play with variegated babbling (e.g., abaduh abee) or imitate the different speech sounds heard in their environment.

By 18 Months. At this age, children’s vocabulary has approximately 6 to 20 words and they are adding words on a regular basis. The child is using a minimum of four different consonants such as /b, n, d, g, w, or h/. The child is responding to Yes/No questions with gestures and words and has learned to say “no” to protest. The expected level of intelligibility (ability to be understood when speaking) is approximately 25%.

By 24 Months. The vocabulary of a 2-year-old will consist of 50 to 100 words including nouns, action words, modifiers, and pronouns. This quantity of words is necessary for the child to

start combining words into two-word phrases. Two-year-olds will form new words easily and continue to add words to their vocabulary. They will chatter with adultlike rhythm and begin to ask simple “Wh-” questions. The expected level of intelligibility is 50%.

By 30 Months. Children’s repertoire at 30 months will be approximately 350 words. Many vowel sounds are used within their words and the vocabulary will include words with two or more syllables. Previously acquired vocabulary words will have the addition of word endings (e.g., -ing, -ed, and plural s). Intelligibility of speech sounds is good with familiar people and continues to improve as the child is consistently producing consonants in the initial position of words. The child would have mastered the early speech sounds and begins producing some of the middle (age of acquisition) sounds /k, g, f, t/.

3 to 4 Years. Young preschoolers will use words for everything. With two- or three-word phrases, they will carry on simple conversations, describe what they are doing, and request items using pronouns. They may use 4+-word sentences, answer “Wh-” questions, or talk about daily activities. Speaking should be easy and without repetition. At the age of 3, children should be approximately 75% intelligible and at least 90% by the time they turn 4.

4 to 5 Years. Older preschoolers will be able to narrate their own stories with great detail. All vowel sounds, to include diphthongs (e.g., oy as in “boy” or ai as in “paid”), should be produced by the age of 4. The child can produce his or her early and middle-level speech sounds but still needs to work on /l, s, r, v, z, ch, sh, th/.

Phonological processes are the systematic and predictable patterns that children use to simplify adult speech as they are learning to talk. A few of the most common phonological processes are fronting (e.g., child says “tow” for “cow”) sounds produced with the tongue in contact with the front of the palate rather than the back of the palate; syllable reduction (e.g., “nana” for “banana”) when the child eliminates a weaker syllable; and

cluster reduction (e.g., “boo” for “blue”) when the child eliminates the later developing consonant *l* and produces the sound that is the easiest to say (i.e., /b/).

Phase 4—Mastery of Speech and Literacy

This final phase covers children from the age of 5 years on, typically when they are attending school. At this age, children are still mastering the later set of speech sounds sh, s, th, r, z, l, learning to use consonant blends (e.g., bl-, st-) and consonant clusters (e.g., str-), and developing the literacy skills for reading and spelling.

Phonological awareness is the ability to manipulate the sound structures of words in spoken language and is essential for the development of reading and spelling. It includes rhyme knowledge (i.e., understanding the essence of a syllable and how rhyme is created); blending/segmentation (i.e., ability to combine sound elements into words or separate words into syllables or phonemes); and manipulation of phonemes, clusters, and syllables to create new words.

Speech Sound Disorders

There is a wide range of what is considered typical for the mastery of specific speech sounds. However, when a child’s speech errors do not resolve themselves by a certain age, or the child is still having difficulties with being understood by familiar adults or is exhibiting frustration behaviors because the child is unsuccessful with his or her attempts to communicate wants and needs, a referral should be made for a speech assessment to determine if a speech disorder exists. Speech-language pathologists, or speech therapists, are the trained professionals who assess, diagnose, treat, and help prevent disorders that are related to speech, language, voice, fluency, and swallowing.

There are numerous causes for speech sound disorders both developmental and because of underlying medical diagnoses such as Down syndrome, hearing impairments, genetic abnormalities, and neuromotor impairments. The related difficulties with speech sound acquisition and their impact

on speech development can vary significantly as highlighted in the following descriptions.

Articulation Disorder

Articulation involves the adjustments and movement of oral-motor structures and coordination of the related musculature to produce speech sounds. The variations in sound production are achieved by altering the *place* (i.e., positions of the speech organs to create different speech sounds), *manner* (i.e., how the speech organs make contact to produce the different speech sounds), or *voicing* (i.e., turning the vibration of the vocal cords on or off) of the structures within the oral-motor mechanism. As young children are learning and practicing new speech sounds, they may make individual sound errors. The most common type of speech sound error is a *substitution* (the child replaces a target sound with a sound that is easier to produce, for example, when they say “pat” for “fat”). Other common speech sound errors include *omissions* (eliminating a target sound in a word, such as saying “ot” for “pot”) or *distortions* (when a child uses a nontypical sound for a typically developing sound, such as a lateralized /s/, i.e., Daffy Duck speech).

Oral-Motor Disorders or Dysfunction

Variations or weaknesses with the lips, tongue, palate, or nasopharynx may cause difficulties with speech production. These variations can be present from birth (e.g., cleft lip and palate) or acquired (e.g., trauma to the tongue, enlarged adenoids). Cleft lip and palate, the most common congenital orofacial anomaly, are birth defects that occur when a baby’s lip or mouth does not form properly during pregnancy. Surgical repairs will usually occur within the first year of life and may include prosthetic management.

Other orofacial anomalies that impact sound production include velopharyngeal insufficiency (i.e., weak or insufficient contact between the velum and pharynx), which impacts the control of airflow and often leads to hypernasal vocal quality or diminished intraoral breath pressure. Enlarged adenoids can cause an obstruction of

the nasopharynx and result in hyponasal/denasal speech (i.e., similar to someone's voice when they have a cold).

Speech Disorders Due to Genetic Factors

Genetic disorders such as Down syndrome and fragile X syndrome often have several features that can contribute to difficulties with speech production. For example, cognitive impairment, a common feature in both Down syndrome and fragile X syndrome, can impact a child's ability to learn speech sounds. Related hypotonia (i.e., low muscle tone) impacts both gross motor and fine motor skills to include the oral-motor structures. Another common feature of children with Down syndrome is *relative macroglossia*. The mouth is smaller than average, which makes an average-size tongue seem larger than normal so movement and function are impacted.

Hearing Impairments

Hearing loss is also a major cause of speech difficulties because the hearing impairment limits the auditory input for children to learn different speech sounds. A hearing loss can be congenital or acquired due to frequent and unresolved ear infections such as conductive hearing loss.

Neuromotor Disorders

Another group of children with organically based speech disorders are those with neuromotor disorders such as *childhood apraxia of speech* and *dysarthria*. Childhood apraxia of speech, also called *developmental apraxia of speech* and *developmental verbal apraxia*, is characterized as an impairment of motor speech programming with the presence of normal reflexes and tone. Dysarthrias, on the other hand, are characterized by a paralysis, weakness, or lack of coordination or precision in the speech musculature which results in slow, weak, or uncoordinated movements during speech production.

Stuttering

Stuttering affects the fluency of speech and is characterized by disruptions in the production of speech

sounds or words. These disruptions can include repetitions of single sounds, part-word or whole-word repetitions, blocked sounds (i.e., mouth is formed to say the sound, but the sound is delayed or not produced), interjections (e.g., adding fillers such as "uh" or "like"), or prolongations (e.g., uuuummmm). A child who stutters will have a higher risk of having speech sound disorders due to many factors: (a) Children who stutter will often avoid the sounds or words that they tend to get "stuck on," (b) stuttering is more common with certain disorders such as hearing impairment and Down syndrome, or (c) the child may not have the skills to simultaneously handle the multiple aspects of language and speech.

Voice Disorders

Voice disorders in children are typically due to phonation problems that are often attributed to voice-abusive behaviors (e.g., yelling, screaming) or issues with reflux. Symptoms such as hoarseness, breathiness, or harshness may negatively affect speech sound production and overall intelligibility.

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See also Communication Disabilities; Expressive Language; Oral Language Development; Phonological Ability

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SPEECH DEVELOPMENT, ISSUES IN

Speech development is a process that begins early in childhood. For many children, this process begins early in infancy and unfolds at an appropriate rate. The result, for these typically developing children, is articulate speech by approximately 6 years of age. However, there is a group of children for whom speech does not develop typically. There are a wide range of etiologies for this atypical development. This entry provides information about typical speech development as well as several possible explanations for difficulty acquiring articulate speech.

Overview

Speech development begins very early for most typically developing children. Vegetative and physiological vocalizations (e.g., grunting, crying, cooing) quickly become a means of communication. Early in infancy, babies begin to play with their vocalizations by stretching out the length, pitch, and frequency of their productions. Between 4 and 12 months of age, infants begin to explore their articulators—the anatomical parts used for speech production, such as the lips, tongue, jaw, and velum. Around their first birthday, most children are producing a simple first word that is often comprised of early developing speech sounds (e.g., /p, b, t, d, m, n, w/ and vowels). Language and speech develop reciprocally at this time. As children's vocabularies expand, so do their opportunities to produce new

and more complex phoneme combinations. More difficult phonemes (e.g., /s, z, k, g, l, r/, "ch, sh, th") develop between the ages of 2 and, arguably, 7. For the majority of children, their speech sound system is completely developed with intelligible speech around the age of 5.

For some children, however, speech development occurs at a slower, or atypical, pace. These children have speech sound disorders. *Speech sound disorder* (SSD) is an umbrella term used to refer to difficulty with the production of phonemes. Over the years, multiple terms have been used to refer to this disorder: *speech delay*, *articulation disorder*, *phonological disorder*, and *speech impairment*, for example. All are still acceptable, but the field of speech language pathology uses speech sound disorder to encompass them all.

Broadly, there are two primary etiologies of SSD: (1) organic and (2) functional. Organic speech sound disorders have a known cause, which may range from structural abnormalities (e.g., cleft palate) to neurological/neuromuscular disorders (e.g., cerebral palsy). Functional disorders, on the other hand, do not have a known cause. The speech sound disorders exist in the absence of any overt structural or neurological issues; the child is otherwise typically developing in many cases. Although many believe and continue to purport that chronic otitis media in early development creates a risk for an SSD, substantial research has been provided to the contrary.

Theory

Two competing theories regarding the underlying cause of functional SSDs are cognitive-linguistic and sensory-motor. Cognitive-linguistic theories suggest that SSDs arise from deficits in the language system. That is, the phonological system is flawed in a way that creates difficulty in producing accurate phonemes. One intriguing aspect of these theories considers that perhaps children with SSD do not fully acquire phonological representations—the building blocks for learning spoken and written language. Sensory-motor based theories suggest that individuals with SSD struggle with phoneme production due

to underlying motoric deficits. That is, the language system is intact, but the motoric system lacks the planning, coordination, and/or strength to accurately produce target sounds.

Research

Current research in this area has several primary foci. First, outcomes related to academic, social, and linguistic performance are of great interest. Although many children with SSDs remediate their errors after a course of treatment, some children persist. For children who persist with speech errors after interventions, gaining adequate literacy skills is a struggle. Difficulty with literacy leads to overall academic difficulties and in some cases, social struggles and, later, vocational struggles. Thus, it is prudent to identify these children early and provide services.

A second focus of research is risk factors. Though there are many risk factors associated with SSDs, research has reported that it is often the accumulation of risk factors that increases a child's probability of having an SSD. Additionally, many young children with functional speech delays eventually achieve age-appropriate speech production. As such, the estimated prevalence of 6-year-olds with an SSD is 3.8%; boys are at greater risk than are girls, with current ratio estimates ranging from 2:1 to 3:1. What remains unclear is what factors influence the development of normal speech for those children who do remediate by age 6 in comparison with those children who are part of the 3.8%.

Finally, a third focus of research examines effective treatment methods for children with SSDs. The aforementioned theories regarding the cause of functional speech sound disorders also dichotomize common therapy approaches (i.e., cognitive-linguistic and sensory-motor). Therapy implementing a cognitive-linguistic approach would focus on teaching the child the connection of the sound to the language; possibly identifying the letter to which it most commonly corresponds or by contrasting it with the errored sound. Therapy implementing a sensory-motor approach would focus on

teaching the child how to accurately move the articulators of speech in order to achieve the most appropriate sound. However, surveys of speech language pathologists indicate that, most commonly, an eclectic approach of both is implemented during treatment.

Importantly, because of the possible academic, cognitive, and linguistic outcomes for children with speech sound disorders, it is crucial to identify and intervene early. Parents, caregivers, and teachers are strongly advised to seek the advice of a speech-language pathologist if they are concerned about the status of a particular child.

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See also Oral Language Development; Phonological Ability; Speech Development

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SPIRITUAL DEVELOPMENT

Interest in the spiritual development of young children is a relatively new phenomenon in the field of human development. Awareness of children's spirituality and spiritual development has increased in recent years partly because of the perception that spirituality is an integral part of human existence and cannot be ignored in educational settings.

This awareness has motivated additional research resulting in discussion and opportunities to consider the spiritual development of young children as an essential component in human development. This entry (a) offers an overview of spiritual development in young children, (b) explores the characteristic dimensions of spiritual development, (c) summarizes the work of theorists who have studied children's spiritual development, and (d) provides implications for teachers to recognize the spiritual development of a young child as a domain in human development.

Overview

Spirituality can be defined in many ways: Some definitions focus on self-awareness as it affects relationships and moral understanding. Others address the importance of nature and outdoor play for young children. A child's spiritual development can be recognized as relational, that is, encompassing compassion, truthfulness, loving-kindness, simple living, and peaceful resolution of conflicts.

The spiritual development of a young child is holistic, involving the body and spirit, thoughts and emotions. The essence of spiritual development is the education of the whole child. The spiritual development of a young child, which involves an awareness of nature and a sense of belonging, is nurtured with security and trust, firsthand experience with nature, and loving relationships with family and caregivers.

Supporting the spiritual development of young children is not about teaching religion. The spiritual development of a young child is characterized by inner experiences, not the observance of customs that may be tied to a particular faith tradition. Promoting dispositions associated with the spiritual development of a young child supports social and emotional lessons that guide social justice, caring for others, community with others, and positive emotional well-being. Like all intentional teaching activities and practices, those that support spiritual development are established in authentic, developmentally and culturally appropriate

learning opportunities and play that occur naturally during a child's day.

Dimensions of Spiritual Development

The following characteristics accompany the spiritual development of young children: simplicity, wonder, openness to new experiences, and trust. As a child's spiritual development occurs, concern for others grows. Spirituality derives from living, exploring, and belonging and from building close relationships created in comfortable environments with loving caregivers who provide a consistent, secure environment and routines for optimal development.

According to David Hay and Rebecca Nye, children's spiritual development comprises three dimensions: (1) awareness-sensing, (2) mystery-sensing, and (3) value-sensing. Awareness-sensing, which involves a child's focus on the here and now, includes tuning in to new sensory experiences, often aesthetic, and living experiences in moments of solitude and concentration. Spiritual experiences of children can also be considered mystery-sensing, characterized by wonder. Childhood is a time of wonder as young children look at the world and capture it through fresh eyes and ears. Wonder includes experiences that are joyful, awe inspiring, and connected to nature. This type of sensing refers to the wonder, fascination, and questioning characteristic of young children as they interact with their universe. The third dimension of children's spirituality is value-sensing, which involves emotions and the way children express their values in the intensity of everyday experiences.

Theorists

A child's spiritual development begins at infancy and continues throughout adolescence. In the 1980s, James Fowler introduced spiritual development, comprising eight stages, starting with infancy and ending with a universal faith, much like Lawrence Kohlberg's moral development stages. According to Fowler, as young children

grow in their ability to form relationships, to develop empathy and reciprocity, they grow in spirituality. This characterization of spiritual development builds on Erik Erikson's theory of trust versus mistrust and Margaret Mahler's theory of attachment–separation in early childhood. These two theorists concluded that spiritual development requires nurturing attention from caregivers so that they develop attachment to their caregivers, both at home and at school. Basic trust is thus essential. Jean Piaget also contributed to the formation of spiritual development by encouraging parents and teachers to offer materials, activities, and open-ended questions that support the development of a child's thinking.

Implications for Teachers

The spirituality of young children can be nurtured in the classroom in quiet areas set up to allow a child to observe a pet or a plant. Children need an environment where they can look outside to view nature, reflect, and breathe. Other ways to nurture the spiritual development of a young child include planting a year-round garden, adopting a tree, observing the change of seasons, and taking care of the Earth. In addition to supporting a child's spiritual development, these measures also transport the child closer to nature.

One of the best ways to nurture spirituality in a classroom is by creating a sense of community and working together as a family of learners. Posting pictures illustrating a classroom community helps children realize they are part of that family of learners. For example, painting murals together, creating a puppet play together, and singing together during circle time assure children that their ideas are respected and that they need one another. Honoring all cultures by celebrating holidays and traditions in developmentally appropriate and sensitive ways is another approach to bring spirituality into the classroom. Doing so gives each child a feeling that he or she is special.

Early childhood is a time when young children seek opportunities to make sense of the world around them. The spiritual development of young children celebrates resilience; increases

self-confidence; and gives them courage, humility, and self-acceptance. Just as early childhood educators support other domains of a young child's development, they should also enthusiastically promote children's spiritual development.

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See also Caring Communities; Empathy; Friendships; Nature and Young Children; Relationship Building; Sociomoral Development

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STAGE THEORIES

Stage theories characterize human development as a series of distinct phases during which skills and abilities appear abruptly at the beginning of a stage and are maintained steadily until the start of the next stage. Children in a particular stage of development are seen as behaving and thinking qualitatively differently from the way they function in other stages, primarily because of major attainments or reorganizations that have taken place. The elements that characterize a particular stage are presumed to permeate many aspects of functioning within that stage. In many stage theories, stages are tied to specific ages, advances are built on the foundations laid within earlier stages, and there is a steady and universal progression toward higher levels of functioning. Implied in many stage theories is the idea that maturation is responsible, at least in part, for development and that regression back to earlier modes of functioning is not possible.

Stage theorists see the process of development as *discontinuous*, with major advances occurring between the end of one stage and the start of the next, and acquisitions remaining relatively flat within a stage. Stage theories stand in contrast to *continuous* theories, which characterize development as taking place through small, gradual, quantitative advances that, in many theories, proceed in a linear and incremental fashion.

Several stage theories have been prominent in the history of developmental psychology, including Jean Piaget's theory of intellectual development, Lawrence Kohlberg's theory of moral development, and Erik Erikson's theory of identity development. Contemporary theories, such as information processing theory and social learning theory, focus less on stages and more on continuous features of cognitive and socioemotional development. Other newer theoretical approaches such as systems theories are also nonstagelike; rather, they emphasize convergent factors at the biological, cognitive, social, and cultural/environmental levels that coalesce to result in advances in development.

Piaget's Theory of Intellectual Development

Piaget (1896–1980) hypothesized that cognitive development is organized into four major stages that reflect qualitatively different central operating principles in children's thinking within each period: the sensorimotor stage (ages birth to 2 years), the preoperational stage (ages 2 to 5 years), the concrete operational stage (ages 5 to 9 years), and the formal operational stage (ages 9 years and onward). Piaget viewed developmental advances as arising from basic adaptive and organizational processes within the organism that operate in conjunction with opportunities for the child to engage actively with the environment. The result is the modification, and at the time a new stage begins, the reorganization of the mental structures, or schemas, that influence the child's thinking capacities.

The two principal stages relevant to the period of early childhood are the sensorimotor and preoperational periods. In the *sensorimotor stage*, infants build a collection of internal representations based

on their physical actions within the environment. Babies look, touch, and eventually crawl and walk, and in these actions, come to construct their understanding of the world around them. The primary basis for thought is action. Within the sensorimotor stage, the infant's actions become increasingly directed toward solving problems, and a representation of the world as separate from the self is constructed. An important attainment during this stage is the *object concept*, the realization that objects in the world continue to exist, even if they cannot be seen at a given moment.

The main acquisition of the *preoperational stage* is the child's ability to engage in symbolic thinking (i.e., the semiotic function), a capacity that brings forth the use of language, imagery, drawing, and engagement in fantasy play. Children in this stage now show the ability to think about the past and the future, but are limited by *egocentrism*, the inability to separate their own perspective from that of others. Children in this stage are unable to use the principles of logic to solve problems and consequently fail the Piagetian conservation tasks. The child's progression toward logical thinking, both in contexts referencing objects that are physically present as well as in more abstract situations, occurs during the *concrete* and *formal operational stages* from midchildhood through adolescence.

Critics of Piaget's theory point out that many of the cognitive abilities he described as occurring in late infancy and the early childhood years are actually present in much younger children. For example, numerous studies have shown that infants only a few months old show evidence of having the object concept and respond to stimuli on the basis of number and category membership, skills that were presumed by Piaget to emerge in future stages several years later. Nonetheless, Piaget's contributions to the field of cognitive development, especially in identifying the importance of the child's active role in building knowledge, are widely acknowledged.

Kohlberg's Theory of Moral Development

For Kohlberg (1927–1987), the child's ability to reason about moral issues is reflected in responses to moral dilemmas, stories in which obedience to

authority is pitted against higher level altruistic principles. Kohlberg's cognitive developmental theory posits three major stages in moral reasoning: (1) the preconventional stage (up to age 9 years), (2) conventional stage (most adolescents and adults), and (3) postconventional stage (some adults from middle age onward). The child's forward movement through these stages is precipitated by advances in thinking capacities, especially the ability to take the perspective of others, as well as opportunities to encounter conflicting points of view, particularly in exchanges with peers.

Children in the early preschool and school years are presumed to be in the *preconventional stage*. Their responses to moral dilemmas reflect an overriding concern with avoiding punishment, attaining rewards, and in general, preserving their own interests. Thus, presented with a story in which a man considers stealing a high-priced drug in order to save his wife's life, children in the preconventional stage typically state that stealing is wrong because the consequence is going to jail. Rather than referencing an abstract moral principle about the relationship of laws to the value of a human life, younger children focus on the overt consequences of the transgression. For children in the preconventional stage, the basis for moral principles resides in adult authority, and the child's own needs and desires dominate in the moral reasoning process.

As children progress beyond the preconventional stage, they move toward accepting the norms of the larger social group (the conventional stage), and ultimately toward developing individually based principles of justice and morality (the postconventional stage). While some research has found support for the existence of Kohlberg's stages, even across different cultures, other work has cast doubt on the idea that individuals of a given age respond to moral dilemmas in a manner consistent with only one stage of moral development.

Erikson's Theory of Identity Development

Erikson (1902–1994) offered a comprehensive eight-stage life span theory of personality development

that was based on individuals adapting to the developmental tasks and challenges confronting them at particular times in their lives. These demands are seen as being derived from societal values and customs that hold out specific requirements for individuals to meet, such as how infant feeding and toilet training are to proceed. At the same time, societies have developed ways of supporting individuals, such as caregiving practices and educational institutions, as they navigate the specific crises life presents them. Central to Erikson's theory is the idea of *identity development*, that at each stage, the individual seeks to more fully understand and accept the self in the context of society. The successful resolution of crises at each stage sets the foundation for positive identity development at later stages.

The first three stages of Erikson's theory most directly pertain to the period of infancy through early childhood. In the first stage, *basic trust versus mistrust* (birth to about 1 year), the young child seeks consistency and reliability in the relationship with the caregiver. If the child can trust that he or she will be fed, comforted, and cared for, and that the caregiver will return after an absence, then there is a solid basis for coping with stress and frustration in later years. In the second stage, *autonomy versus shame and doubt* (about 1 to 3 years), children's burgeoning independence may conflict with certain rules laid down by caregivers or other social agents (i.e., toilet training is expected). Being able to negotiate these conflicts with confidence and without shame can forecast positive self-esteem later in development. In the third stage, *initiative versus guilt* (about 3 to 6 years), the child zealously engages with the social world and develops interests in an initial exploration of who he or she is as a person. If the child's explorations are not thwarted by excessive social constraints, identity development will proceed in a constructive fashion.

Erikson's theory is sometimes criticized for lacking specifics about the mechanisms of development and for containing elements that are difficult to evaluate empirically. At the same time, he is recognized for acknowledging the wide-ranging factors that can influence an individual's development.

Stage theories have enjoyed tremendous popularity over the past several decades, perhaps because they capture what seem to be dramatic differences in how children behave when they are observed at two widely separated time periods. The idea of stages is clearly reflected in popular beliefs about children (e.g., in the common parental use of the term *the terrible two's*) and even appears in the names of widely used early childhood screening tools, such as the Ages & Stages Questionnaires employed by educational and health professionals to assess the typicality of children's development. However, many contemporary researchers now believe that fine-grained observations within shorter time periods reveal what is actually the continuous, and not stagelike, nature of many developmental processes.

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See also Cognitive Developmental Theory; Developmental Assessment; Developmental Screening Instruments; Moral Development; Psychosocial Theory

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STANDARDIZED ASSESSMENT

A standardized assessment is administered and scored in a consistent, or “standard,” manner each time the assessment is given. Standardized tests are designed such that the questions, conditions for administering, scoring procedures, and

interpretations are always consistent from child to child from time to time. In judging the quality of a standardized assessment, validity (does it test what it says it tests) and reliability (does it do it every time) are typically viewed as essential elements.

Many people erroneously assume that standardized testing means high-stakes tests, with multiple choice, computer-scored answers; limits on time for completion; and comparison-based percentile scores. Any test given in the same manner to all test takers is a standardized test. Standardized tests can be low-stakes or high-stakes tests, may or may not have time elements, have a variety of types of questions and responses, and have a variety of ways to report the outcome.

The opposite of a standardized test is a nonstandardized test. Nonstandardized testing gives substantively different tests to different test takers or gives the same test under considerably different conditions (e.g., one group is permitted far less time to complete the test than the other group), or evaluates them differently (e.g., the same answer is counted right for one student, but wrong for another student). Standardized tests are perceived by educators as being more impartial than nonstandardized tests. The consistency of standardized tests also permits more reliable comparison of outcomes across all test takers.

Background

The use of standardized testing in the United States began with the Army's Alpha and Beta tests developed by Robert Yerkes and colleagues to test recruits for World War I. The written Alpha test helped to determine who would be commissioned officers and the pictorial Beta test helped to weed out unsuitable military prospects. Immigration also contributed to the growth of standardized tests in the United States as literacy tests were used to determine new arrivals' social roles and status upon entrance to America.

The federal government's desire to make meaningful comparisons across multiple public education systems and settings also contributed to a

growth of standardized testing and eventually to the debate over usage of standardized testing. First, the 1965 federal Elementary and Secondary Education Act (ESEA) required standardized testing in public schools. This was followed by the No Child Left Behind Act, passed by Congress in 2001 and signed by President George W. Bush in 2002, which further tied public school funding to standardized testing.

Under No Child Left Behind, students in Grades 3 through 8 are given yearly tests used to assess each student's achievement within a short amount of time. Some dissenters called the act "No Child Left Untested." Many people further disagree with standardized testing, arguing that some children are not good test takers and thus do not show their true ability, that the tests are culturally biased, and that the pressure to do well causes high anxiety and stress. Another controversy surrounding standardized testing is their use in teachers' evaluations and determining merit pay leading many to argue that teachers have been required to teach to the test rather than teaching children what they actually needed to know.

Design and Scoring

Standardized testing can be composed of multiple-choice questions, true-false questions, essay questions, short-answer questions, performance-based assessments, authentic assessments, or nearly any other form of examination. Multiple-choice and true-false items are most common on standardized measures because they are scored inexpensively and quickly by computers. Standardized tests that have short-answer or essay writing components are assigned a score by trained independent evaluators who use rubrics (rules or guidelines) and benchmark papers (examples of papers for each possible score) to determine the grade to be given to a response.

Human scoring can be variable and thus problematic. For example, some believe that low-paid, unhappy employees score tests poorly. Agreement between scorers can also vary between 60% to 85%, depending on the test and the scoring session (Mondays vs. Fridays). Having two or more

scorers read each paper, and possibly a third if their scores do not agree, improves the chance of eliminating error.

There are two main types of standardized test score interpretations: a norm-referenced score and a criterion-referenced score.

Norm-referenced score interpretations compare test takers with a sample of peers (the normative group) and with each other. Students are ranked as being better or worse than other students. For example, if a student's norm-referenced score is 82, 18% of the normative group did better than that student and 81% did worse than that student. Norm-referenced test score interpretations are most often associated with traditional education in the United States.

Criterion-referenced score interpretations compare test takers with a criterion (a predetermined definition of the content knowledge expectation), regardless of the scores of others. These may also be described as standards-based assessments. Criterion-referenced score interpretations are only concerned with whether or not a student's answer is correct and/or complete; and thus, it is possible for all students to pass the test, or for all students to fail the test.

Marcy Guddemi

See also Academics and Academic Assessment in Early Education; Assessment, Limitations of; Authentic Assessment; Checklists and Rating Scales; Developmental Screening Instruments; Gesell Assessments

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STANDARDS

Learning standards are written descriptions of the skills and knowledge that children should know and be able to do at specific ages or grade levels. In defining age or grade-level expectations, standards outline learning progressions in domains of development and subject areas. Learning standards, also referred to as *academic* or *content standards*, outline what students are expected to learn, not how they should be taught. When based on current research in child development and learning, standards can guide teachers, caregivers, and parents on developmentally appropriate content, educational objectives, and dispositions for children to acquire. This entry describes early learning and development standards for children birth through 5 years of age, K–12 learning standards, the standards-based reform movement, and concerns about and benefits of standards.

Early Learning and Development Standards

In 2002, the George W. Bush administration authorized the Good Start, Grow Smart early childhood initiative, which asked states to develop voluntary early learning guidelines in language and literacy for 3- to 5-year-olds that align with state K–12 standards. The initiative asked that the guidelines be able to be adapted to a variety of child care settings. All U.S. states and territories now have preschool standards for 3- to 5-year-olds, and most have, or are developing, standards for infants and toddlers. Standards for young children birth to age 5 are typically called early learning guidelines (ELGs) or early learning and development standards (ELDS). Individual states have used additional terms, including *foundations*, *building blocks*, and *early learning indicators of progress*. In most states, early learning guidelines are available from the state education department's website. The Administration for Children and Families, Office of Child Care has information and Web links to all U.S. states' early learning guidelines at its website. Catherine Scott-

Little and Sharon Lynn Kagan, who have extensive experience and expertise in this area, have developed a website with resources and recommendations for those writing or revising state early learning guidelines.

K–12 Learning Standards

National organizations have provided guidance in developing K–12 standards for many decades. Initially, states used the standards developed by national organizations such as the National Council of Teachers of Mathematics as a model in developing their own state standards. That changed for most states when the Council of Chief State School Officers (CCSSO) and the National Governors Association Center for Best Practices, in partnership with Achieve, a nonprofit education reform organization working with states to raise academic standards, released the Common Core State Standards for K–12 in 2010. Referred to as the Common Core, the standards were designed to help all students graduate from high school prepared for college, career, and life. The Common Core includes English language arts/literacy and mathematics.

The focus of the standards is on helping students to communicate effectively, possess strong content knowledge, value evidence and use it to support their points of view, and understand other perspectives and cultures. In order to meet the expectations of the Common Core, students need to be problem solvers who persevere until they find a solution. They need to make connections, use reasoning and proof, draw conclusions, represent their thoughts, and communicate these thoughts capably to others. In 2015, 43 states, the District of Columbia, and four territories had adopted the Common Core.

The National Research Council developed *A Framework for K–12 Science Education* in 2012 based on the research on science and learning, identifying content important for students to know. States, science educators, industry experts, and stakeholders, working in partnership with Achieve, used the framework to develop The Next Generation Science Standards (NGSS) released in

2013. Many states have now adopted these standards, and many others are considering doing so.

K–12 standards in other subject areas are still generally developed by individual states, using national guidelines as models. The National Council of Social Studies (NCSS) published the *National Curriculum Standards for Social Studies: A Framework for Teaching, Learning, and Assessment*. This document outlined 10 themes of social studies to guide states in identifying content that should be included in developing their own state standards. The National Coalition for Core Arts Standards developed the National Core Arts Standards. The standards outline a conceptual framework for arts learning for PK–12 students in dance, media arts, music, theater, and visual arts. The Society of Health and Physical Educators (SHAPE America) have national standards that define what students should know as a result of a quality physical education (K–12) and health education (PK–12), and in addition have early childhood guidelines. The International Society for Technology in Education (ISTE) has a set of standards for students that outlines the skills and knowledge that it believes students need to live productively and learn effectively in our global and digital world.

The Standards-Based Reform Movement in the United States

Although standards were being mentioned in educational literature in the early 1900s, many view the landmark report *A Nation at Risk* as the beginning of the standards-based reform movement in the United States. In this 1983 report, the National Commission on Excellence in Education called for schools to adopt more rigorous and measurable standards. This prompted many states to adopt a standards-based educational system; however, many of their standards lacked clarity and rigor.

In 1989, President George H. W. Bush and the governors of all 50 states held an education summit in Charlottesville, Virginia, and set education goals for the country designed to improve the nation's

education system. Eight of the governors, along with several federal and state legislators, formed the National Education Goals Panel, which called for the development of academic standards that would challenge students and help the country meet the goals that had been set. The panel was instrumental in the development of the National Council on Education Standards and Testing, which recommended establishing voluntary, national standards that would set high expectations, instead of minimal guidelines, which had often been the case in the past. It suggested that the standards continue to evolve with the development of new knowledge. An advisory group convened by the goals panel issued a report in 1993 titled *Promises to Keep: Creating High Standards for American Students* outlining criteria for broad-based development of useful, world-class, high standards. The U.S. Department of Education, along with other agencies and foundations, awarded grants to national organizations to develop standards in various academic areas. Goals 2000: Educate America Act was signed into law in 1994 and provided resources for states to help all students meet more challenging standards.

The No Child Left Behind Act (NCLB) of 2001 brought standards and accountability to a new level. Any state accepting the federal government's targeted financial support for low-income students was required to be accountable by measuring and reporting on academic achievement in relation to learning standards. NCLB required schools to test in reading and mathematics at Grades 3 to 8 and at least once in high school, as well as testing on science three times from 3rd to 12th grades. School-level results of these tests are available online, providing parents, lawmakers, and the public far more information about student performance than had been available in the past.

Benefits of and Concerns Regarding Standards

Standards are able to clearly delineate expectations for children at specific ages and grade levels and provide guidance for teachers, caregivers, and

parents. They have been viewed as a means of raising student achievement. Because they are written for all students, standards have the potential of helping to address the achievement gap and disparities in educational opportunities by offering a consistent, research-based set of learning goals, although those benefits have yet to be realized. However, some have argued that standards written for all children do not adequately take into account individual capabilities.

There is debate whether having national standards takes away the autonomy of states to develop their own standards, which was the norm before the advent of the Common Core and Next Generation Science standards. Proponents of national standards argue that having panels of the best minds in the country developing national standards benefits all students. They suggest that students in all parts of the country can now expect the same high-quality education and that children who move from one state to another will not have to worry about being behind. They also state that schools should be able to share and save money on educational resources such as textbooks and other curriculum materials, as well as national assessments developed by the Smarter Balanced Assessment Consortium and the Partnership for Assessment of Readiness for College and Careers (PARCC).

Concerns have been raised that the increased emphasis on standards and testing may narrow the curriculum to topics that are tested and decrease children's intrinsic interest in learning. Some recommend that other, more authentic methods of accountability be explored and include subject areas that have been ignored in previous standards testing initiatives. They also suggest that less frequent testing could provide needed data while allowing for more time for teaching and learning. There is also fear that the focus on standards will cause some schools to eliminate appropriate practices, such as time for play and outdoor activities for children.

In a joint position statement, *Early Learning Standards: Creating the Conditions for Success*, the National Association for the Education of

Young Children (NAEYC) and the National Association of Early Childhood Specialists in State Departments of Education (NAECS/SDE) suggest that standards can lead to better outcomes and opportunities for all children. However, they also point out that these benefits will only be realized if the standards (a) emphasize significant developmentally appropriate content and outcomes; (b) are developed and reviewed through informed, inclusive processes with multiple stakeholders; (c) are implemented and assessed through practices that support children's development in ethical, appropriate ways; and (d) are accompanied by a foundation of support for early childhood programs, professionals, and families.

The position statement emphasizes that standards must be written to accommodate the wide range of diversity found in children. The statement calls for developmentally appropriate, high-quality curriculum, teaching strategies, and classroom practices, which would include all areas of the curriculum, including social and emotional development and promoting positive approaches to learning. They recommend that assessments based on standards be used to benefit children and improve practice, not to sort, rank, or penalize children. For example, early learning guidelines and any accompanying assessments should be used to help individualize learning for young children, not serve as gatekeepers from kindergarten.

Most education experts agree that standards must be aligned with the rest of the instructional delivery system, including curriculum, instruction, and assessment, with high-quality standards serving as the focal point for this alignment. High-quality teacher preparation, professional development, resources, and support will also be necessary in order for standards to achieve their potential of improving student learning and achievement.

Gera Jacobs

See also Assessment, Limitations of; Common Core State Standards; Curriculum and Early Childhood Education; Developmentally Appropriate Practice; Standards-Based Curriculum and Assessment

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International Society for Technology in Education (ISTE) Standards for Students: <http://www.iste.org/standards/standards-for-students>

National Core Arts Standards: <http://nationalartsstandards.org>

Next Generation Science Standards (NGSS): <http://www.nextgenscience.org/>

SHAPE America Early Childhood Policy Guide Series: <http://www.shapeamerica.org/standards/guidelines/earlychildhoodguidelines.cfm>

SHAPE America National Standards: <http://www.shapeamerica.org/standards/index.cfm>

University of North Carolina at Greensboro and Teachers College at Columbia University, Early Learning Guidelines: <http://earlylearningguidelines-standards.org/>

STANDARDS-BASED CURRICULUM AND ASSESSMENT

There are three major threads influencing standards for curriculum and standards-based assessment in early childhood. The threads come from legislation, policies, and practices in K–12 education; legislation, practices, and regulations particular to preschool and child care, including those involving Head Start, quality rating and improvement systems, and the Child Care and Development Block Grant; and finally, the legislation and practices for children with disabilities. Each thread must be considered in the context of both an early childhood framework and the framework of K–12 education, since the age range for early childhood is conventionally defined as birth to age 8, covering both preschool and elementary venues. Thus, the landscape for curriculum and assessment in early childhood is complex due to the various settings where young children receive care and education. Of course when young children reach school age, the settings issue becomes somewhat less complex, particularly if they are educated in public school settings.

K–12 Legislation, Policies, and Practices

The National Commission on Excellence in Education was appointed by Department of Education Secretary Terrel Bell in 1981 and charged with the task of reporting on the quality of American education by 1983. The opening

paragraph of the commission's report, *A Nation at Risk: The Imperative for School Reform*, points to the "quality" crisis in education:

Our once unchallenged preeminence in commerce, industry, science, and technological innovation is being overtaken by competitors throughout the world . . . but it is . . . [education] that undergirds American prosperity, security and civility . . . the educational foundations of our society are presently being eroded by a rising tide of mediocrity that threatens our very future as a Nation and a people. What was un-imaginable a generation ago has begun to occur. Others are matching and surpassing our educational attainments. (1983, p. 5)

The report recommended the creation of performance standards and expectations for students. While there are other points in history that called for educational reform in the 20th century, notably the era following the 1957 launch of Sputnik by the Russians, 1983 is the marker for the focus on educational standards. Thus, before the 20th century and beyond, educational reform and educational quality are always linked to workforce development and economic and global competitiveness; that is, do we have an educated citizenry that can maintain our place in the world of economic growth and global competition? If not, then what must we do for schooling to ensure success as a nation? So, it is the 1983 report that drives standards-based teaching and the evolving standards-based assessment accountability for elementary and secondary education. The report recommended the creation of performance standards and expectations for students. It articulated concerns about workforce development and economic and global competitiveness that have continued to drive the standards movement in elementary and secondary education.

Following the publication of *A Nation at Risk*, professional curriculum associations, beginning with the National Council of Teachers of Mathematics (NCTM), developed and published standards in 1989 to guide K–12 teaching. Other

professional associations followed with the publication of subject area standards. Thus, teaching principles were identified and incorporated into student texts and in curricular goals for school districts, as well as in state-developed education standards.

The large-scale use of pre/post assessment had already begun in 1965 with the passage of the Elementary and Secondary Education Act (ESEA). The funds allocated under the law to districts serving children living in poverty, children most often found to also be low achieving, were focused on remedial education, often in pullout tutoring programs, that is, children removed from the classroom for special instruction. One of the requirements for receiving funds to enrich experiences in reading and math was the requirement to document child progress with pretest and posttest measures through the Title I Evaluation and Reporting System (TIERS). Thus, the teaching–testing connection as mandated by federal legislation began. Various reports in the years following pointed to the successes and failures of programs utilizing ESEA funds to increase student achievement.

With the passage of the No Child Left Behind Act (NCLB) in 2001, the federal government required regular testing of all public school children in reading and math beginning at third grade and the development of state learning standards. The legislation also included the requirement that all children would be scoring at grade level by 2014 and that sanctions would be levied against school districts failing to improve.

The Council of Chief State School Officers and the National Governors Association in 2009 began development of the Common Core State Standards (CCSS) for English language arts and mathematics. These standards were designed to even out the uneven state standards so that all children would leave high school as college- and career-ready graduates, as well as critical thinkers and problem solvers. Between 2010 and 2012, 46 states adopted the Common Core, but by 2014, three states had dropped the standards. Some opponents of the Common Core argued that because the Obama administration had encouraged the adoption of the

standards, they amounted to federal control over education that went against the tradition of states' rights in education.

Most of the states that adopted the Common Core also participated in one of two consortia to develop tests aligned to the standards: (1) Smarter Balanced Assessment Consortium or (2) Partnership for Assessment of Readiness for College and Careers (PARCC), with a few states choosing to develop their own tests. After pilot testing, PARCC and Smarter Balanced tests were implemented in 2015. By that year, several other states decided not to use these tests. In some states, controversies surrounding the Common Core and the associated tests resulted in sizable numbers of families opting out of assessment for their children, which may skew the results.

Many critics have complained that NCLB has led to overtesting of children. Besides the annual testing required by the law, school districts gave interim tests and used the results to plan interventions for greater child success. For the consequences levied by states and school districts for not making progress in student achievement under NCLB, referred to as adequate yearly progress (AYP), could be high. These consequences included firing of whole schools' staff and reconstituting the schools under new leadership with new teachers and curricula, the loss of funding, conversion of failing schools to charter schools, and public censure through the school report card data publication in local newspapers and by state departments of education.

While the goal of NCLB was to assure increased student achievement through regular assessment documented for all to see, the high-stakes nature of the assessment created practices leading to narrowing of curriculum to a focus only on what content would be tested. The result on the part of some school districts was the use of workbooks mirroring the tests as well as overemphasis on test prep. These efforts came about because of the threat and implementation of high-stakes consequences to schools and school districts not making AYP. Since the passage of NCLB, the role of testing students in K–12 has been hotly debated with an increasing call from many quarters to

reduce testing of children to prove acquisition of skills. More recently, there have been efforts to stop the practice of trying to attach measures of teacher performance to student achievement through the value-added approach, which uses statistical methods in an attempt to show the contribution of individual teachers to students' learning. Tennessee was the first state to formally use value-added modeling of student test scores, developed by William Sanders, initially as part of a school development initiative. Later Tennessee and other states began to use teachers' value-added scores as part of teachers' evaluation.

The value-added approach of linking student achievement to the evaluation of teachers gained ground as evidence mounted that even with incentives, many children in K–12 were not making AYP. In 2009, President Obama signed into law the American Recovery and Reinvestment Act (ARRA), which was also known as the stimulus act. The legislation was

designed to stimulate the economy, support job creation, and invest in critical sectors, including education. The ARRA lays the foundation for education reform by supporting investments in innovative strategies that are most likely to lead to improved results for students, long-term gains in school and school system capacity, and increased productivity and effectiveness. (U.S. Department of Education, 2009)

With these funds, states were invited to compete for grants from the Race to the Top program. States were awarded points in the grant competition based in part on their plans for rigorous standards and assessments and systems to improve instruction, and the point system rewarded states that used value-added models to factor student test scores into teacher evaluations.

As action stalled in Congress on proposals to reauthorize ESEA, in 2011, the Education Department announced it would allow states to be released from some of the law's requirements through a waiver process. States that received the waivers were allowed to develop new measures of school

and district performance that took into account improvement on standardized test performance, and they no longer had to meet the 100% proficiency target. To receive a waiver, states had to promise to tie teacher evaluation to student test scores. At the end of 2015, Congress approved the Every Student Succeeds Act to reauthorize ESEA and replace NCLB, making the waivers moot. The new law continues annual testing in Grades 3 through 8 and once in high school, but leaves identification of failing schools and plans for dealing with them to the states. States also will decide whether and how to use test scores for teacher evaluation.

Overlapping K–12 and Early Childhood Standards Movements

Meanwhile the standards-based assessment of young children in the infant, toddler, and preschool years has an overlapping trajectory and relationship to the K–12 standards movement. In 1964, as part of the War on Poverty declared by President Lyndon B. Johnson in his inaugural address, the Office of Economic Opportunity (OEO) was created. The OEO housed special programs directed toward the elimination of poverty. Besides the ESEA, which evolved into NCLB, Head Start began in 1965 under the OEO umbrella. The history of Head Start includes the development of curricular models, such as HighScope and more recently published curricula such as *The Creative Curriculum*. However, the models initially offered less-specific curricular goals and suggested guidelines for implementation, as well as guided practice for documentation of observed child progress that was formative and meant to guide teaching. It was not until 2000 that the Office of Head Start first created the Child Development and Early Learning Framework, revised in 2010 with the stated purpose of outlining

the essential areas of development and learning that are to be used by Head Start programs to establish school readiness goals for their children, monitor children's progress, align curricula, and conduct program planning. It does not pro-

vide specific benchmarks or levels of accomplishment for children to achieve during their time in Head Start. (p. 2)

Curricula and assessment traditions in Head Start are important indicators for early childhood practice, as a whole, since research and demonstration practices generated here include large cohorts of children to inform directions for best practice for all young children. It was in 1995 that Early Head Start began, moving the implementation of child development and educational services to infants, toddlers, and pregnant mothers.

Following the publication of *A Nation at Risk*, calls came for moving kindergarten in public schools away from a play-based approach supporting the development of social-emotional, cognitive, and physical development to an academic approach with teacher-directed, workbook-based curricula so that children would be ready for “real” learning and achievement. Throughout the mid-1980s across the nation, various early childhood education advocates wrote and presented position papers on the importance of play-based curricula, which culminated in the publication by the National Association for the Education of Young Children (NAEYC)’s 1987 position statement on developmentally appropriate practice. The latest version of this statement, adopted in 2009, provides guidelines for applying a research-based focus to curricula and assessment without being prescriptive in the design, delivery, and outcomes assessment of programs.

The principles behind NAEYC’s position statement support assessment of child progress, but in a holistic manner. This position places developmentally appropriate practice in an antithetical position toward outcomes-based standardized assessment practiced in K–12 schools. While NAEYC’s developmentally appropriate practice position statements have evolved since 1987 to include a perspective on standardized assessment, the principles remain in favor of naturalistic assessment of young children.

Meanwhile at a 1989 education summit in Charlottesville, Virginia, governors from all 50

states and President George H. W. Bush proposed an educational reform program called Goals 2000. The program set goals that were to be met by the year 2000. Goal 1 states,

All children in America will start school ready to learn. The objectives for this goal are that (i) all children would have access to high-quality and developmentally appropriate preschool programs . . . ; (ii) every parent . . . will be a child's first teacher and devote time each day to helping such parent's preschool child learn . . . ; (iii) children will receive the nutrition, physical activity experiences, and health care needed to arrive at school with healthy minds and bodies. . . .

This goal was often interpreted to mean that children in preschool and kindergarten should begin to learn letters, numbers, and other artifacts of the paper/pencil world of elementary school. The early childhood professional field argued that the most important part of Goal 1 was the third subgoal, which focused on health and well-being. Nevertheless, early childhood educators continued to push for a holistic approach to education by using standards to guide curriculum and formative assessment to document progress. One notable portfolio assessment system, the Work Sampling System (WSS), was "designed to enhance the process of observation and to ensure the reliability and consistency of teacher's observations" (Dichtelmiller, Jablon, Marsden, & Meisels, 2001, p. vii). The WSS provides outcomes for both curricular and developmental indicators, thus modeling the collection of data on young children to document both developmental and academic progress.

Yet, the before-school-age landscape of child care continues to be fragmented and only recently has focused on promoting quality as well as access for families seeking child care programs. Beginning in the 1990s, quality rating and improvement systems (QRISs) provided a way for states and communities to rate child care centers on quality and to reward those with higher public subsidy payments for excellence.

Besides the rating systems, states have initiated professional development systems for teachers in child care centers so that there is a ladder to credentials, including teacher licensure. Professional development credit is offered for basic child development knowledge acquired by seminars and college courses. Curriculum standards and outcomes assessment, while a part of the preparation offered in these basic orientations to the field, often stand in line behind foci on safety, child management, and such things as organization of space and creation of activities for learning. Therefore in the infant, toddler, and preschool years, standards-based teaching and assessment does not receive uniform attention in practice. However, early learning standards are found in all states with varying content and focus on academics.

These standards came about due to federal initiatives such as Good Start Grow Smart, which the George W. Bush administration launched in 2002, and guidelines for the Child Care and Development Block Grant (CCDBG). In 2014, the CCDBG was reauthorized and revised to expand child care quality efforts. Thirty-six states now include curriculum indicators as part of their QRISs, usually with alignment to early learning standards. Thus, alignment with learning standards is still a work in progress in child care centers. Those centers and home care situations seeking higher quality ratings may show that they implement programs aligned with early learning standards.

Early Childhood Special Education

The third thread in curriculum standards and outcomes assessment comes from early childhood special education history and tradition. Young children with disabilities were historically served in health care facilities and in special schools and institutions. With the enactment of the Education for All Handicapped Children Act in 1975, later reauthorized as the Individuals with Disabilities Education Act, a free and appropriate education was guaranteed to all school-age children, including those with disabilities. The act included specifications for assessment in the child's primary

language and the requirement that children with special needs be educated in the least restrictive environment possible, which ultimately led to many disabled children being educated alongside their nondisabled peers in regular classrooms. In 1986, the law was amended to include infants and toddlers, for whom are developed individualized plans based on family priorities that are known as individualized family services plans (IFSP).

Special education is rooted in a philosophy of identifying child strengths and deficits through assessment and the provision of intervention to address the specialized needs of young children. The Division for Early Childhood (DEC) prepared *DEC Recommended Practices in Early Intervention/Early Childhood Special Education* to guide assessment and intervention with young children. Besides individualized instruction, direct teaching of skills, and data-based teaching (teaching practice based on assessment), the DEC recommends that early intervention occur in the natural environment whether that is home, child care center, or school.

ZERO TO THREE was established in 1977 as a multidisciplinary organization with a focus on child development, health, and mental health in the birth to 3 populations. ZERO TO THREE published a diagnostic guideline in 1994 to supplement the established diagnostic manual used by clinicians. Both the original guideline and the revision assist teachers in understanding infant's, toddler's, and young children's special needs, but do not provide curriculum and assessment standards. Early childhood teachers must be able to apply specialized assessment and instructional techniques in all settings for young children with special needs.

Drawing Conclusions From the Various Threads

At the same time as the assessment and standards work in K–12 and early childhood education described earlier, there were calls for greater attention to accountability for educational attainment in postsecondary education and efforts to align education systems from prekindergarten through college. The Partnership for 21st Century Learning

(P21) was founded in 2002 and as of 2015 included 19 state partners. The mission of this organization is

to serve as catalyst for 21st century learning to build collaborative partnerships among education, business, community and government leaders so that all learners acquire the knowledge and skills they need to thrive in a world where change is constant and learning never stops. (n.p.)

This framework uses similar language to that in the Common Core with an emphasis on curricula that promote critical thinking and problem solving. The assessment framework calls for “a balance of assessments, including high-quality standardized testing along with effective classroom formative and summative assessments” (P21, n.d.). Traditional early childhood practice with a focus on the whole child in the family and cultural context fits well with this 21st-century framework.

Besides the importance of a P21 framework, educators must adapt curricula to respond to the United States becoming more culturally, socially, and linguistically diverse. Thus, the work begun in 2002 by the WIDA consortium becomes critical for early childhood educators to consider. In 2014, WIDA released Early English Language Standards that are aligned to multiple states' English language standards and the Head Start framework so that curriculum and assessment in early childhood can be holistic in its approach to facilitating learning for the fastest growing population of young children—English learners.

While early childhood educators have been players in developing, interpreting, and using standards-based curriculum and assessment, the approach is dominated by K–12 philosophies, legislation, and state and federal priorities. Notable exceptions include work to make early childhood standards include a focus on health and well-being, to stop the practice of redshirting as a response to the increased academic focus of kindergarten while also recommending changes to

how kindergarten is taught, and the development of QRISs.

Early childhood advocates won a battle during debate over Goals 2000 to include the underlying health and well-being of students as the focus of readiness for school in Goal 1, rather than *readiness* being defined merely as “being ready to read.” Early childhood leaders advocated that being ready for literacy instruction presupposed adequate food, housing, and access to health care so that young children could come to school ready to learn. These advocacy efforts also stressed the holistic nature of curriculum through intentional teaching and developmentally appropriate practice.

Kindergarten redshirting occurs when families hold back their 5-year-olds so they will be more mature and able to sit still and manipulate pencils on paper. The position statements that NAEYC and its state and local affiliates began to issue during the 1980s on developmentally appropriate practice concentrated on active learning standards in contrast to the increasing reliance on paper and pencil tasks in kindergarten; redshirting should be unnecessary when curricula are developmentally appropriate. Developmentally appropriate practice starts with the child in the social and cultural context of the school or child care center. NAEYC’s publications discuss ways of teaching based on solid research and an emphasis on curricula and assessment promoting critical thinking, self-empowered learning, and holistic understanding of the knowledge, skills, and dispositions required to be a lifelong learner.

Finally, the development of QRISs, with their focus on child care settings, professional development for teachers, and guidelines for curriculum and assessment standards and strategies, promises access to a high-quality learning experience for all young children.

Gayle Mindes

See also Common Core State Standards; Head Start; National Association for the Education of Young Children; National Head Start Association; Quality Rating and Improvement Systems; Standardized Assessment; Standards

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Careers (PARCC): <http://parcc.pearson.com/>

Smarter Balance Assessment Consortium: <http://www.smarterbalanced.org/about/>

STATE POLICY MAKING

Developing and implementing early childhood policy is complex but done well can have a profound impact on the trajectory of growth for all children. Challenging factors that contribute to this complexity include the multiple contexts in which children access early childhood services, level of local and state commitment to collaboration, navigating state configurations of early childhood systems, and cultivating leaders with early childhood competencies. State policy should support children to move seamlessly through the birth through age 8 continuum known as early childhood. This entry addresses the multifaceted structure of early childhood state policy making.

Collective Impact

The early childhood research is clear: How adults, communities, and state governments act impacts the developing brain. The Center on the Developing Child at Harvard University authored *A Science-Based Framework for Early Childhood Policy: Using Evidence to Improve Outcomes in Learning, Behavior, and Health for Vulnerable Children* in 2007. The findings suggest that multiple interrelated factors influence children's developing brains and that coordinated effort by adults, communities, and state government can collectively impact a positive trajectory of development.

To act upon the knowledge that neuroscience provides, a comprehensive systems approach that accounts for family, community, and government accountability to be intentionally engaged in the

lives of children is needed to make a collective impact toward supporting a continuum of growth for all children. Efforts are dependent upon how well state and local governments set policy and coordinate services in the context of local and state political climates. In order to support a seamless continuum of growth for all children ages birth through 8, all communities and state agencies should consider policy development that broadly addresses the needs of all children and families. Some examples of policy decisions states face are

- where children are being served when not in the care of their families,
- how to measure the quality of early care and education services across settings,
- what criteria comprise a highly qualified teacher, and are teachers considered to be compensated and qualified in the same way across all settings; and
- what early learning standards and curricula are most effective and are they effective across all settings?

These are just a few policy questions that challenge states. The complexity of local and state government processes and vision about early childhood can often be a barrier to developing and implementing well-coordinated comprehensive early childhood policy. However, initiatives such as the PreK–3rd Grade National Work Group, the National P3 Center, and the BUILD Initiative are helping states navigate paths toward a coordinated effort for comprehensive policy development.

Complexity of Early Childhood Systems

Children ages birth to 5 will most likely spend a significant amount of time in at least one or more settings outside of their home. In 2012, Child Trends Data Bank reported more than 60% of children within this age range will be in the care of someone other than their parent(s). Their early care and education will be provided by individuals who are relatives, own a family child care business,

teach in a center-based program that may or may not be funded by federal or state dollars, are home visitors or interventionists, or teach in public or private schools. Because individuals with diverse experience and educational backgrounds serve young children in a variety of settings, developing state policy that can reach all settings that serve young children is challenging.

Comprehensive and inclusive state policy can support the premise that every child age birth through 8 in every setting deserves high-quality care and education. State statutes that regulate agencies and their scope can be a barrier to developing comprehensive and inclusive policies. We often see policies emerge from individual state agencies that may have a particular lens on early childhood, have purview over specific settings due to funding sources, or have a narrow scope of a particular age group. For example, a health agency may make health policy separate from an education agency or from a child welfare agency. An education agency may have one or more state-funded programs with differing policies serving the same ages. The Early Childhood Systems Work Group, a collaboration of national organizations focused on early childhood system-building issues, in 2011 outlined a systems framework inclusive of health, early learning and development, and family leadership and support that lead to thriving children and families. Consensus on the primary goal will help states form the collaboration needed to coproduce effective policy.

Multiple funding sources utilized by states compound the complexity of comprehensive early childhood policy making. Federal initiatives such as Head Start; the Child Care and Development Block Grant; Maternal, Infant, and Early Childhood Home Visiting (MIECHV); the Individuals with Disabilities Education Act Part B and C; Race to the Top Early Learning Challenge; and Preschool Development and Expansion Grants as well as state initiatives such as state pre-K programs each have their own standards. Funds are not often situated within a single state entity to manage and coordinate but instead are located across multiple agencies. The fragmentation of funds across state agencies adds a challenging

layer to building early childhood systems within existing state configurations.

State and Local Early Childhood Configurations

The BUILD Initiative has reviewed state governance models and provides strategies on state governance design. States work within coordinated, consolidated, or, in a few cases, independent agencies dedicated to early childhood. Regardless of the model, partnerships between agencies and local communities are necessary to really develop comprehensive early childhood policy that makes a difference. In BUILD's January 2014 publication *The Nuts and Bolts of Building Early Childhood Systems Through State/Local Initiatives*, components and benchmarks for developing connections provide states with details on how to begin addressing the work of collaboration. One of the key lessons learned during the study of states engaging in a BUILD collaborative was that the agreed-upon vision of the collaborative should be broad, not narrowly focused on any particular element of early childhood.

The Improving Head Start Readiness Act of 2007 required states accepting federal Head Start funds to convene a state advisory council. These councils are representative of state and local government early childhood stakeholders charged with addressing a broad array of early childhood system components. To encourage buy-in, the funds provided to states needed to be matched by state and local entities. Although these funds did not create the concept of Children's Councils, as local or state entities that coordinate services, they did bring early childhood entities together with a focus to address comprehensive strategies for uncoupling fragmented systems and make recommendations for comprehensive, cross-sector policies to benefit young children and their families. It was reported by Head Start that many states went beyond the required membership to include key partners at the local level. Although the funding has ended, states must maintain their councils, though it remains unclear the extent to which the activity of the

councils will remain focused. Other examples of collaborative efforts have emerged from states.

The Foundation for Child Development provides resources on current research that has implications for policy and practice. Notably, an article highlighted by the foundation featured New Jersey's advocacy efforts to recommend comprehensive policy shifts in the areas of teacher education, guidance on the use of assessment, transition to kindergarten, and mandating full-day kindergarten. The July 2014 article *Strong Early Learning Systems = Strong Young Readers: New Jersey's Action Plan for Success* by the Advocates for Children of New Jersey provides a succinct description of purpose, rationale, and recommendations, and highlights Washington State's example of collaboration.

Leadership

Regardless of state configurations that govern early childhood state policy development or management of state and federal funds, knowledgeable and engaged leadership at every level is the key to actualizing comprehensive early childhood state policy. The National Governors Association is one resource to assist governors with navigating the literature related to early childhood and providing links to resources for best practices. However, a gap remains to provide government leaders with a leadership framework that asserts the principles and practices needed for coproduction of comprehensive early childhood policy.

Leadership organizations such as the National Association of Elementary School Principals have boldly stepped out and provided a competency framework for school leaders. The 2014 publication *Leading Pre-K–3 Learning Communities: Competencies for Effective Principal Practice* outlines six competency areas. Of particular importance is the first competency area, which calls for a disposition to embrace the continuum of development and to think of a learning community as internal and external stakeholders, inclusive of parents. Competencies such as these support the underlying foundations of comprehensive policy

development: a shared understanding of a vision, and that collective collaboration will help navigate through the fragmentation of early childhood systems toward unified policy that can have positive effects for all children across all settings.

Conclusion

States struggle to move beyond a fragmented system of collaboration to true coproduction of comprehensive state policy. The term *coproduction* is not new but perhaps needs some revisiting in the context of early childhood. The idea behind coproduction is to engage all parties, especially the recipients of the service, in policy development. States are fortunate to have access to multiple partners that can arm states with the latest research, trends, and data to inform policy makers and partner in creating effective policy. Examples of state partners are Administration of Children and Families Office of Child Care and Office of Head Start, BUILD Initiative, Center on Enhancing Early Learning Outcomes, Council of Chief State School Officers, Center for Law and Social Policy, Center on the Developing Child at Harvard University, Education Development Center, Foundation for Child Development, National Association for the Education of Young Children, National Association of Early Childhood Specialists in State Departments of Education, National Association of Elementary School Principals, National Governors Association, National Institute for Early Education Research, National Women's Law Center, and others.

Deborah Adams

See also Child Care; Early Childhood Education; Early Childhood Education Systems; Early Head Start; Head Start; Quality Rating and Improvement Systems

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- National Women's Law Center: <http://www.nwlc.org/>

STORYTELLING AND STORY ACTING

Storytelling occurs in a variety of forms, one of which is early childhood classroom communities. Vivian Paley's storytelling and story acting process is used in classrooms across the nation and internationally to support young children's social, emotional, cognitive, language, and literacy development. The storytelling and story acting processes are often integrated into the school curriculum. The only supplies necessary for this activity are paper and pencil. Storytelling is voluntary and self-initiated; children choose to tell a story during center or choice time, and narrate any kind of story they prefer, with any type and number of characters, pretend or real. Children dictate their stories to a transcriber, and the transcriber records the children's stories verbatim. An example of a story told by a 48-month-old girl follows:

Once upon a time there was a beautiful princess and her name was Aurora and there was a unicorn and that was her friend and there was beautiful water with sparkles in it and a little animal was stuck in it. A princess saw the little animal and she didn't know the prince was there. And then the little animal got out because Aurora helped the animal out of the water. There was a dinosaur, they ran so fast, the dinosaur didn't get them, the unicorn flew into the sky. They got a beautiful castle and the prince was there and they got married. The End.

Storytelling dramas are activities in which children act out their own stories in a group. On the same day children have told their stories, the stories are acted out. The teacher reads through the story first; then children (or the teacher) choose

their classmates as actors to dramatize the stories while the remaining class members serve as the audience for the drama. There is no rehearsal for the story acting. Both boys and girls find it highly motivating to tell their stories, based on interests and knowledge, and act them out. The combined practice of both storytelling and story acting seems critical to the success and educational effectiveness of the practice. Children tell their stories knowing that their stories will be shared with their peers during the dramatizations. Furthermore, storytelling and the subsequent dramatizations involve play, creativity, and social experiences, making them powerful and motivating opportunities to develop skills in an authentic, fun, child-centered activity.

Research on Storytelling and Story Acting

Child-created stories are examined in research across a number of fields such as psychology, education, and linguistics. Children's stories reveal something important about who they are and how they see the world. Storytelling can be a tool for educators to understand children in depth and better meet their interests and needs. Story acting brings together the entire classroom community in a child-led and adult-structured shared drama activity.

Most research on children's storytelling focuses on the content of children's narratives and the narrative form, with the focus most often being the stories themselves. This research demonstrates that children's stories reveal important information about children's development of voice and narrative understanding and conceptions of people, which are culturally shaped and different across boys and girls, and their understanding of the world.

Furthermore, storytelling and story acting engages children with authentic opportunities to engage in the subskills of early literacy development, including oral language vocabulary and syntax, knowledge of narrative form, conventions of print, phonemic awareness, and comprehension, with the teacher scaffolding the children's

learning. A comparison of similar children exposed to a traditional skills-based literacy approach to those taught with a storytelling and story acting curriculum showed that the children who participated in the storytelling and story acting curriculum showed significant gains in both vocabulary and literacy skills.

Storytelling and story acting also provide a connection between the contextualized speech of young children and the decontextualized language that occurs in books and writing. Contextualized language is that which a child learns in a familiar place, doing familiar activities, such that the conversational context helps the child learn any new words that arise. Decontextualized language is more difficult to understand because it is abstract and the meaning comes mainly through linguistic cues. Both listening to and telling stories provides a bridge between contextualized and decontextualized language in that the story itself provides greater context to the words and their symbolic meaning.

Although most research on dramatic play has been conducted in dramatic play centers in which children come and go, and interact in dyads or triads, a few studies have examined story acting based on children's stories in a whole-group setting. Story acting allows children to portray their thoughts and feelings, as well as connect to other children's stories. Story dramas integrate physical motor skills with art and social interaction skills.

Acting out the stories can be an avenue for building a sense of community in the classroom. Community building emerges through several processes associated with the storytelling and story acting curriculum. First, each child has an important role to play, including the roles of storyteller, audience, and actor. These roles provide opportunities for children to contribute to the classroom community. The storyteller role provides leadership opportunities, in which children often direct the actors in their performance. Audience members show self-regulation skills to maintain attention and provide support and positive feedback to their classmates. Actors rely on self-restraint to avoid hitting or kicking their classmates in the pretend

fight that often occurs. Actors also have the opportunity to play the role of opposite gender characters, giving the children models of greater flexibility in gender roles.

Regardless of developmental level, all children are able to participate in the storytelling dramas, providing them the opportunity to learn about other peers in the classroom and see and appreciate the qualities that each child brings. The shared public arena provided by storytelling and story acting provides opportunities for children to share humor, work together to accomplish the task of acting out the story, and build relationships with one another. One way children express this appreciation of others is by adopting peer strategies and ideas as their own. Children often imitate the themes of other children's stories and repeat themes that were well received by the audience of peers.

Storytelling and story acting can also increase children's confidence and provide a sense of belonging and social engagement. Story acting requires emotion and self-regulation. For example, when dramatizing, children practice waiting, taking turns, and not touching others during pretend action. Children's stories often include themes of aggression and power, and stories can be an outlet for children to explore these emotions that are often taboo or forbidden in home and school environments.

Children of differing abilities and development often participate in the storytelling drama activity. Because this activity is child centered and follows children's interests, it is effective with children at various abilities. Participation in story acting allows peers to view children with developmental challenges in a positive light and focuses on individual strengths as contributing to the classroom community. Moreover, story acting provides children with an outlet to express complex emotions such as anger and aggression in a safe context. The audience of both peers and teachers is more accepting of exploring these difficult emotions when in the pretend setting of the story and acting.

Storytelling, as a choice during learning centers, and story acting, during whole-group time and done for an age-appropriate length of time,

presents a unique opportunity during the classroom day where children come together as a group to build relationships, participate and collaborate, and value each individual's strengths to develop a sense of belonging to a community. Storytelling and story acting incorporate the pretend play that children thrive on, but yet include the ideas, participation, and cooperation of the class as a whole group to build community.

Implications for Practice

Implementing storytelling and story acting within a developmentally appropriate early childhood curriculum can transform children's narrative, social, and emotional abilities over the course of a year. Teacher guidance is important to scaffold the learning process, to help form the narrative structure, and to set boundaries for the acting process. The teacher's role in the dictation varies in that some teachers take the dictation verbatim, and others provide gentle prompts to scaffold the child's narrative. Care must be taken not to ask so many questions that the child's ownership of the story is undermined or that the child feels criticized. Over time, children take ownership and can lead the activity, as essential for the growth of narrative, group membership, sharing of roles and responsibilities, and practicing "story" scenarios in a safe space. Teachers can support children's storytelling and story acting by providing time, space, and agreed-upon rules.

The teacher's most valuable contribution to the activity is listening for and acknowledging shared story themes, experiences, and cooperative behavior among the classroom group. Teachers can also provide supports for children with special needs or children learning English who might otherwise have difficulty expressing a story. Supports might include celebrating single word or very short stories, providing visual props, modeling stories, providing prompts based on listening, and listening for stories in other areas such as the dramatic play area for children who are reluctant to tell stories. Children may become more comfortable telling their own stories over time, but all children play an

important role as an audience member or actor during the dramatization. Teachers should expect that children often tell stories with common themes; this repetition is not cause for concern, and may be necessary practice for children who are just learning this narrative form.

One common area of challenge for teachers is the aggression portrayed in many children's stories. Teachers may be uncomfortable with the aggression and violence and may be conflicted about children acting out aggressive stories in the classroom. One view is that this type of aggression should not be tolerated because it provides models of unacceptable behavior and may encourage further aggression. The contrasting developmental view is that it is important that children learn that they can explore aggression and anger in a safe environment and regulate the outcomes themselves. Pretend aggression can be a positive way to explore and regulate strong emotions.

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See also Curriculum and Early Childhood Education; Literacy; Play, Benefits of

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STRENGTHS-BASED EDUCATION AND PRACTICES

Strengths-based education and practice (SBEP) is a conceptual perspective and approach that promotes identification and appreciation of individual, group, and community interests, goals, and strengths through active, collaborative partnerships. Professionals who implement this approach assume that every individual, family, school, and community has power and resources to resolve challenges, achieve goals, learn, and thrive. SBEP comprises a supportive environment in which stakeholders have opportunities for reflective practice, learning, relationship building, and assessment of both assets and challenges. This entry provides an overview of the essential elements of SBEP as well as its historical context, theoretical foundations, and applications to early childhood education (ECE) programs.

Overview

Positive relationships among children, teachers, and families based on trust, respect, and collaboration are vital to successful SBEP in ECE programs. Within the context of such relationships, there are opportunities for support and resources, the acquisition of new perspectives, collaborative evaluation, and problem solving. Practices that support SBEP include integrated teaching and learning approaches, reflective practice, cultural sensitivity, and inclusion. Underlying these practices is the notion that people are active agents in improving their own lives.

SBEP has the potential to benefit individuals, programs, and communities. For children, SBEP

facilitates positive identity development, social-emotional competence, physical and mental health, creativity, and academic success. SBEP encourages children to recognize and accept their strengths and limitations, empowers them to participate in their own learning, validates their individual expression and roles in the community, encourages responsibility and accountability, and promotes effective decision making.

SBEP empowers families to explore their children's strengths, possibly altering their understanding and expectations of their children. This shift in perspective has implications for how families support, teach, and nurture their children. Professionals and schools that utilize SBEP seek to reinforce families' competencies, contributing to their sense of satisfaction, importance, and well-being as parents—factors that support positive parent-child relationships, parents' capacity to resolve family conflicts, and parents' role as children's first teachers. SBEP supports families' motivation, participation, and decision making in their children's education.

SBEP is advantageous for ECE teachers, equipping them with skills to establish positive, sensitive, and nurturing relationships with children and families, to individualize their teaching methods, to implement curriculum in innovative ways, and to meet standards for high-quality practice. Engagement in ongoing strengths-based reflective practice enhances teachers' awareness of their own and others' knowledge, skills, backgrounds, and biases.

Other individuals from schools and communities that contribute to children's learning and success may also use SBEP. A critical component of effective SBEP is the alignment of all professionals in this approach, including ongoing collaboration, as an integrated system. When professionals in the community use SBEP with each other, they foster alliances, form common goals, and share information and resources. SBEP can facilitate community engagement and promote a "collective impact approach" in education whereby teachers, families, and community members align to celebrate individual and collective strengths, focus on

improvement and goal setting, and share accountability. A SBEP infrastructure is essential for continuous quality improvement of ECE.

Historical and Theoretical Underpinnings of SBEP

The underlying principles of SBEP in ECE stem from a number of mental health and social service fields. Strengths-based practice first emerged in the field of social work as an alternative to traditional, deficits-based practice, which focused on individual pathology. The social work tenets of social justice, self-determinism, and empowerment underlie the most basic principle of SBEP, namely, that every individual, family, group, and community has both internal and external resources that can be mobilized to support healthy development, to overcome adversity, and to achieve success in different life domains.

Whereas traditional notions of helping and educating others focused on problems with individuals, a strengths-based approach envisions helping and educating as a process of empowerment, in which the professional engages with individuals, groups, or families to identify and enhance existing strengths. Strengths-based practitioners deliberately prioritize the beliefs, values, and worldviews of individuals and families. This approach stands in stark contrast to deficits-based models that position service providers as "experts" whose job it is to identify problems and offer strategies for "fixing" them.

SBEP in education and social service models emerged in the early 20th century with Mary Richmond and "friendly visitors" from the Charitable Organization Society, who held that poverty was not a moral shortcoming; instead, problems in individuals, families, and communities should be understood in the context of challenging social conditions. Concurrently, the professionalization of helping, formalization of social work education and training, and adaptation of "social diagnosis" from medicine helped consolidate and launch SBEP, eventually leading to its integration in ECE.

The late 20th century ushered in several other frameworks and theories that helped to popularize SBEP across fields of practice. In 1990, the Search Institute introduced Developmental Assets—an identified set of skills, experiences, relationships, and behaviors that enable children to develop into successful adults. Several years later, Dennis Saleebey and colleagues at the University of Kansas codified a strengths-based approach in social work. This approach emphasized that (a) every individual, group, family, and community has strengths; (b) adversities can provide opportunities for growth; (c) people's ambitions and capacities for growth and change should be recognized and taken seriously; (d) individuals are best served through collaboration; (e) all environments have resources; and (f) care is essential to well-being.

Later that decade, the American Psychological Association began to promote positive psychology as a field of scientific study, focusing on individual strengths. Simultaneously, the field of positive youth development (PYD) also gained prominence, highlighting the capacity of youth to make positive contributions to self, family, community, and society. In education, whole child initiatives have underscored PYD, shifting from a narrow focus on academic success to broader notions of positive child development.

The scientific study of resilience made substantial contributions to SBEP. Around 1970, psychologists first began to conduct research on positive adaptation to adversity, or resilience, observing children who were exposed to biological and psychosocial risks (e.g., parental mental illness, poverty, trauma) and exhibited positive adaptation. Most experts have come to understand resilience as a product of dynamic interactions among risk and protective processes operating at multiple levels (individual, family, community, societal) rather than as an individual trait. Resilience research has informed how professionals identify risk and protective factors and foster positive child development.

Last, SBEP in ECE has roots in special education and early intervention. Carl Dunst, Carol Trivette, and Angela Deal have conducted

important research on early intervention and on family-centered practices, which emphasize families' rights to make decisions on behalf of their children and to be treated with respect.

SBEP in ECE

A number of ECE programs have implemented SBEP, but some programs are noteworthy. For example, Head Start (HS), a dual-generation program supporting low-income children and families initiated in the 1960s, advocated that parent involvement and support were paramount to children's success and school readiness. HS programs require SBEP in ongoing assessment and inclusion of families from diverse backgrounds. In the 1990s, HS began to make particular use of parent empowerment theories, viewing parents as partners and as experts on their own children. More recently, technical assistance initiatives, such as the Office of Head Start's National Center on Parent, Family, and Community Engagement, highlight the importance of forming positive goal-oriented relationships with families.

HS and other ECE programs have implemented a number of formal SBEP initiatives as well, including Strengthening Families, which emphasizes protective and promotive factors in supporting parents as partners, providing knowledge of child development, and helping parents develop social connections. Other SBEP approaches in ECE include Reggio Emilia and HighScope, which seek to build on children's own unique interests, skills, and strengths.

SBEP in ECE focuses on mutually supportive relationships with an emphasis on family engagement—how programs engage families in the program—rather than solely on parent education and participation in the program. This focus values parents' expertise on their own children and their self-efficacy in accomplishing their goals, rather than exclusively focusing on their challenges. SBEP in ECE also stresses that every child and family has strengths, skills, and capacities that can be utilized to help them achieve their goals.

Cultural competency among ECE professionals is another important component of SBEP, including an appreciation for the unique traditions, practices, and worldviews of children and families, and a recognition and respect for children's individual rights, abilities, interests, learning differences, and preferences for activities and routines. The National Association for the Education of Young Children's standards for professional preparation, for example, highlight the importance of inclusion, respecting diversity, strong family and community relationships, and respecting cultural variations in families' values.

Strategies to Support Family Partnerships in ECE

Partnerships with families, based on trust, collaboration, and respect, characterize SBEP in ECE. Ongoing and open two-way communication through everyday conversations, parent-teacher conferences, daily journals, written notes, message boards, e-mails, home visits, and participation in program activities are several methods that parents and teachers may use to communicate about child and family strengths and to share family customs and traditions. Parent-teacher partnerships also often involve collaborative assessment and goal setting for children. Families provide critical information about their children and themselves supporting the review of data around child assessment and program improvement.

Strengths-Based Approaches to Curriculum and Assessment in ECE

A number of ECE approaches (e.g., Reggio Emilia and HighScope) encourage teachers to use documentation (a) as a way to connect with families and illustrate children's progress and (b) as a vehicle for professional development in which teachers can share and reflect on their work with one another. SBEP strategies to document, understand, and assess children's strengths and needs include portfolios of artwork or writing, videos, photographs,

observations and recorded anecdotes, and more formal assessments. For children with special needs, programs often use individualized education programs to set goals and assess children's strengths, needs, and progress. Strengths-based assessment approaches focus on the whole child and his or her unique capabilities. Gathering observations, data, and anecdotes of children's interactions with teachers, peers, and materials provides the opportunity to document their distinct experiences, interests, and learning styles. Programs can use this information to plan activities, transitions, and curriculum. Strengths-based assessment also provides useful information to programs on how to build an environment supportive of child, family, staff, and community strengths, creating a culture of respect, trust, and appreciation.

Evaluating SBEP

Several tools exist to help programs evaluate their SBEP. Examples include Beth Green's Strengths-Based Practices Inventory, the National Center for Community-Based Child Abuse Prevention's Protective Factors Survey, and Search Institute's Developmental Assets. These measures focus on a program's ability to empower children and families through supportive relationships by building on existing characteristics, skills, and competencies, and by recognizing resources in the community.

Conclusion

Given the capacity of SBEP to promote children's early learning and development, as well as family, program, and community strengths, it is not surprising that SBEP in ECE has become more common. SBEP grows out of a rich tradition of celebrating diversity and strengths across many fields of practice, including social work, resilience, positive psychology, and PYD. Strengths-based ECE programs value relationships with families, cultural competency, reflective practice, and individualized approaches to child assessment. Evaluation of SBEP is relatively new, but several

tools exist for helping ECE programs engage in quality improvement around SBEP.

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See also Family Partnerships; Family Strengths; Family-Centered Practices; Head Start; HighScope; Observational Assessment; Reflective Practice; Reggio Emilia Approach; Resilience in Adversity

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STRESS AND RESILIENCE IN FAMILIES

Stress and resilience in families are natural dynamic processes that help families, as biosocial systems within complex ecologies, to balance the changing

needs of individual family members as well as preserve and strengthen the family as a unit. The terms *stress* and *resilience* represent constructs used in scientific studies and the development and implementation of early childhood and family support programs. A developmental framework known as applied biosocial contextual development (ABCD) identifies both stressors and promotive processes as essential for children to develop resilience. When a family experiences stressors, this provides natural opportunities for young children to learn about strategies to counteract stress and, in turn, foster resilience. At the same time, when stressors become excessive or chronic, they can harm children and the family unit. The ABCD conceptual framework is compatible with the view that early adverse events can impair a child's physical, psychosocial, and cognitive development and produce lifelong negative health effects. In the ABCD model, as well as other epigenetic frameworks, behavior and development are viewed as intertwined with basic biological processes and the expression (or inhibition) of genes. For families with high levels of stress and low resiliency, some of the most important interlinked biological outcomes are (a) structural and functional changes to the child's brain that reflect inadequate levels of cognitive and social-emotional stimulation and learning; (b) a profile of biomarkers predictive of elevated risk for early onset of cardiometabolic disorders strongly linked to chronic stress; and (c) increased prevalence of respiratory and allergy conditions associated with exposure to environmental toxins, lack of adequate exercise and nutrition, and chaotic households.

Definition of Terms

Family resilience is a psychological construct that encompasses many dimensions of how families function. The essence of resilience is that families have a repertoire of approaches to help them survive—and even benefit from—the ebb and flow of challenges they encounter. The construct of resilience is strongly linked to the field of positive psychology and to understanding the biosocial

nature of human development itself. In times of duress, families demonstrate their resilience; in times of calm, families may reflect on how they handle difficult periods and even take actions so that they are well prepared to be resilient in the face of future adversity.

Families are the primary stable providers of the young child's physical, social, emotional, and cognitive environment—the socioecological context that can protect and nurture children during the time of exceptional dependence on others for survival. Families also serve as major facilitators of children's learning about the world and themselves as active agents in the world. Many of young children's experiences, direct and indirect or observational, within their own family environment provide the basis for how they negotiate with others outside the family. Above all, promotive families offer a trustworthy, caring haven where children can readily obtain help understand their own experiences and have their emerging needs met.

The specific behaviors that comprise a promotive family, however, are hypothesized to vary as a function of the particular stressors a family faces, the resources the family has available, and the stage in the life of the family and the child. That is, specific behaviors that are promotive for a given family or culture at a given time and place in history may not necessarily be promotive for families living in other places or at other times in history. This relativity principle about promotive and resilience strategies is vital in conducting research and working with families to understand and improve effective problem solving.

As goal-directed social units that fulfill core societal functions, families act to maximize the health of their children and their progress toward becoming competent, caring, and contributing adult members of society. At the same time, most families value interdependence and positive relationships within the family. Interdependence is not inherently at odds with children becoming independent and autonomous later. Rather, interdependency is a complementary dimension of mature behavior that fosters efficiency and can promote

flexibility, planning, and problem solving for the family as a unit. Families recognize that with increasing age and experiences, children will form new and lasting social relationships in multiple realms of personal, work, recreational, and community life; these later relationships also will benefit from healthy forms of interdependence.

Another important family goal is that their own values, traditions, and history are shared and passed on through the generations. For some families, this goal may be explicit and openly discussed; for others, this goal may be implicit or embedded within the family's encouragement that their children become "good people" and "show respect for their family's heritage." To achieve this goal of sustaining the identity of a family through the generations, many families tell stories about how their ancestors and older family members have survived difficult situations (i.e., a resilience repository). These shared memories reveal strategies for maintaining equilibrium when families face threats. These intergenerational reflections provide families with opportunities to think about how best to adapt to their current life situation and how to strengthen future resilience. Conversely, families that minimize, overlook, or actively deny the reality of "difficult times" may be limiting their children's opportunities to acquire strategies that build subsequent individual or collective group resilience. Within a community, there may be many rituals, songs, literary works, and community-endorsed messages and activities that can serve to reinforce the within-family resilience messages. For families in relatively isolated places or for those who have been victims of marginalization, racism, rampant disease, or relocation due to extreme conditions, their young children may lack this natural form of reinforcement from the wider community and from children in other families.

Stress refers to a collection of highly diverse conditions that increase the demands on the family and the individuals within the family to maintain equilibrium. *Family stress* often connotes that the family unit is undergoing a period of vulnerability, ranging from stress in meeting their basic physical needs (e.g., shelter, safety, nutrition,

clothing) to those considered important to achieving the family's own goals (e.g., healthy physical and social environments in the community, availability of affordable and high-quality child care and public education, adequate employment opportunities currently and in the foreseeable future, good-quality and accessible health care and prevention services) and desirable for promoting maximal well-being (e.g., strong social networks, cultural and recreational opportunities, opportunities to become engaged in the local and larger communities).

Another high source of stress to a family is whether the social unit itself will continue—that is, whether the parents will stay together and whether and under what circumstances their children will continue to live with them. The reasons for disruptions to family units and membership are many, including divorce or the end of a collaborative parental relationship, serious mental health problems in one or both parents, and legal situations that take a parent or child away from the family unit. Such major disruptions almost always comprise a serious stressor that necessitates many changes for the family in its daily life and the availability of resources (social, financial, physical) to rear young children.

Stressors to a family often are dichotomized into those originating primarily within the family unit (intrafamilial) and outside (extrafamilial). Regardless of origin, major stressors to the family can spread and escalate when not abated by effective resiliency strategies or supported by resiliency resources. An extensive body of research documents the negative effects of chronic exposure to high levels of stress on the physical health and longevity of individuals, accounting for many of the entrenched health disparities observed between high- and low-income families and between majority and minority ethnic and racial groups. Increasing scientific inquiry explores the ways in which family stress and resilience can contribute to (a) the integrity and functioning of the family as a unit and (b) young children's outcomes in terms of health, cognition, brain development, social and emotional development, and school readiness and

later school and work success. This line of inquiry now even extends as early as the preconception and the prenatal periods.

Applying Research Findings to Programs and Services for Families

Many fluctuations and transitions in family life can be considered normative and fairly predictable, while others are far less so. Thus, with a longitudinal lens in place, there are many practical implications of the biosocial systems principles that characterize family units. Biosocial systems principles inherently work to promote families achieving homeostasis—a healthy balanced system of functioning. For families, however, what homeostasis “looks like” is far from a simple, static, or universal picture. This leads to the proposal that “family homeostasis” represents a delicate and frequently changing state in which the roles and behavior of individual family members, subunits within the family, and the family as a whole accommodate the demands on the family adjusted to their resources to achieve positive outcomes for individuals and the family as a whole, without violating major societal norms and expectations.

These systems principles can help service providers and educators to identify strategies that can promote, but will not always guarantee, a balanced family system. Under times of duress and particularly when adjusting to unexpected major fluctuations, the family's early responses can be viewed as more (or less) resilient—that is, successful in minimizing (versus not lowering or even increasing) harm from stressors to the family and individual family members. Careful observation of and discussion about these early responses can form the basis for evidence-informed interventions and supports for families during times of heightened vulnerability.

John G. Borkowski, Sharon Landesman Ramey, and Marie Bristol-Power led a National Institutes of Health (NIH) conference forum that built consensus among developmental scientists about the research evidence about the most important ways that parents promote their young

children's development. Briefly, the acronym RPM3, representing Responsive care, Prevention and protection, and Monitoring, Mentoring, and Modeling, captures the consensus summary. These parent activities all fall within the construct of resilience strategies and promoting childhood resilience. The practice of RPM3 simultaneously confers benefits to children and provides a robust biosocial systems framework that helps families to maintain equilibrium (or homeostasis) during periods of transition and duress.

Applied developmental science has engaged in conducting multiple experimental interventions to help children overcome the negative consequences of intergenerational family poverty and accompanying chronic stressors. These studies provide a rigorous test of the hypothesis that human development is malleable, rather than largely predetermined by circumstances of birth and inheritance. Many intervention studies sought to change parenting knowledge and practices and many directly supplemented the family's resources by providing early, high-quality, and continuous care and educational programs for their children. Collectively, these interventions have sought to increase effective family resilience strategies while also decreasing stressors. The findings from these early family and child intervention studies often demonstrate that both the children and parents benefit, with short-term benefits forming the mediating path to longer term benefits. The highly effective interventions have essentially delivered what is captured in the NIH RPM3 summary (see above). They offer multiple opportunities for parents to learn more about child development, effective (versus ineffective) ways to teach and play with their children, and how to anticipate and solve problems in their own lives that they self-identify. In addition, these interventions often provide the extrafamilial supports and direct educational opportunities for children that some families cannot realistically provide completely on their own. The enduring benefits of these interventions potentially can disrupt intergenerational patterns of dysfunction, poor health, and undue exposure to chronic stress with insufficient resiliency resources.

Conclusion

Achieving family resilience is a highly desirable goal that results in benefits to each family member and to the family unit as a whole. Resilience requires learning and flexibility because it is a changing characteristic of a complex and developing system. The scientific evidence is strong that aspects of family resilience can be learned and that a wide array of different resilience strategies can ameliorate negative effects of high levels of family stress on child outcomes.

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See also At-Risk Families; Family Engagement Models; Healthy Environments for Social-Emotional Development; Parenting Effects on Child Development; Parenting Support and Education

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STUDENT TEACHING

See Internships; Student Teaching and Internships, Issues in

STUDENT TEACHING AND INTERNSHIPS, ISSUES IN

The field of early childhood education is inclusive of a variety of professional roles, but primarily consists of those who teach young learners in educational settings. Preparation of those teachers is of paramount importance since their classroom practices will potentially have a significant impact on very young children; indeed, children's earliest educational experiences may even set the trajectory for future performance in school. Undoubtedly, then, the preparation of early childhood educators should be guided by reliable, professional knowledge of evidence-based practices. One such practice, critically important to the development and learning of future teachers for young children, is the provision of quality clinical experience. In this entry, early childhood education student teaching and internships are addressed. The terms *student teaching* and *internships* are used here as included in the broader terminology, *field experiences* and *clinical experiences*.

Clinical Experiences

Clinical field experience is understood to be a strong component of preparation and induction into the teaching profession. Prior to moving into the role of early childhood educators, novice teachers will have accumulated varying numbers

of internship hours as part of their educational preparation. The National Association for the Education of Young Children (NAEYC) has articulated specific expectations regarding clinical experiences for those who will work with children from birth to age 8 and their families, including student teaching and other field-based internships. Specifically, NAEYC requires that early childhood teacher candidates have field experiences in at least two different early education settings, which can include child care centers, homes, Head Start agencies, primary schools, and elementary schools. Additionally it is required that candidates participate in fieldwork with at least two different early childhood age groups; this includes birth to 3 years of age, 3 to 5 years of age, and 5 to 8 years of age (NAEYC, 2010).

History

Historically, preparation for early childhood educators consisted primarily of an apprenticeship approach. Those who aspired to teach kindergarten in the late 19th century, for example, were typically trained under master teachers, acquiring the skills needed to become effective educators through observation and gradually increasing participation in classroom teaching. This practical approach to teacher preparation, with little time for the study of theory, was necessary to meet the growing demand for caregivers and teachers outside of the family.

During the late 19th and early 20th centuries, the system for preparing early childhood teachers included an increasing emphasis on theoretical coursework, but maintained a practical focus as well. Even as normal schools and other training schools began to include programs for teachers of young children, the practical experience component of the education for early childhood teachers remained. In many cases, kindergarten teachers were placed in classrooms at the time they entered training programs (Thompson, 1992). While this placement system was primarily a response to the demand for teachers of young children, the candidates' authentic experiences with children very likely allowed the coursework to inform their practice and vice versa. Thus, although programs

have been characterized by shifts in focus throughout the years, practical experiences have consistently been included as a valued component of early childhood teacher preparation.

Trends and Variance

Authentic clinical experience is highly valued as an essential factor in all teacher preparation programs. A 2011 report from the National Council on Teacher Quality critiqued teacher preparation programs, emphasizing a need for a greater focus on high-quality, field-based experiences. While the public cry for the inclusion of quality clinical experiences is recent, the emphasis on clinical experiences of those who will teach the youngest learners has always been present. Such field experiences may include internships, practicums, and student teaching participation, with preservice teachers placed under the supervision of expert mentors. This clinical focus is considered by many within the profession to be a mainstay of quality preparation for future early childhood practitioners. Many early childhood professionals would assert that in order to become effective teachers of young children, candidates benefit from multiple, authentic classroom experiences; the knowledge and skills needed to interact with children in a manner that is most supportive of their total development and learning would be best acquired in the context of real classrooms with real children.

If authentic classroom experience with children is understood as essential in early childhood teacher preparation, it is also clear that the specific configuration for programs can be significantly varied. The types of placements, the number of clinical hours required, and the levels of candidate involvement can deviate greatly from program to program. For example, in one, centrally located U.S. state, the requirement for field experience is a minimum of 45 hours of diverse field experience, or its equivalent, prior to the student teaching experience. Additionally, a minimum of a 12-week, capstone internship, a full-time student teaching semester, must be completed by all early childhood teacher education candidates, prior to program

completion and recommendation for licensure. In that state, placements must include a split block student teaching experience, with 8 weeks spent in a pre-k or kindergarten classroom, and the remaining 8 weeks spent in a first-, second-, or third-grade classroom. Beyond that requirement, which is necessary in order to meet NAEYC accreditation guidelines, clinical experiences vary greatly from program to program. There may be a series of internships that lead to student teaching, organized as a gradual release approach to increasing candidate experiences; conversely, there may be very few required field experiences prior to student teaching. Furthermore, the required assignments in each of those settings may vary from observation only, to menial tasks such as making copies or grading papers, to participation in the full range of early childhood teacher responsibilities. The variance in this state is certainly not unique, and similar differences, from program to program, would likely be characteristic of early childhood teacher preparation programs across the United States.

The variance found in U.S. programs appears to be common to field-based early childhood experiences from a more global perspective as well. While certain features of clinical experiences might be more prominent within a particular country or region, differences do exist from program to program, with regard to placements, as well as other requirements for future early childhood teachers. In other words, while national and regional recommendations or general policies may exist with regard to clinical field experiences, there is not a universal approach or set of guidelines for student teaching and internships within the field of early childhood education.

Potential Outcomes of Clinical Experience

Differences within and across countries, regions, and states are potentially a very positive reality, on the one hand; unique features of field experiences for future teachers of young children suggest that programs maintain an important level of autonomy in their preparation programs for early childhood educators. Teacher preparation professionals,

trusted to create meaningful internship experiences for their candidates that are compatible with their overall preservice programs, are empowered to craft the kinds of clinical experiences that would be considered high quality. Such experiences are certainly more likely to result in well-prepared, competent novice teachers for young children, a common goal for all early childhood teacher preparation programs.

On the other hand, variance in field experience requirements from program to program may also be viewed as a potential detriment to quality within the early childhood workforce. For example, with no common standard in terms of hours required, or specific expectations for clinical experiences, there exists the possibility that some future teachers of young children may complete programs of study having had very little authentic experience with children in classrooms. Additionally, while some candidates may have an adequate number of field hours, the bulk of those hours may be spent observing another teacher; while observation of exemplary teachers is a necessary and valuable experience for future early childhood teachers, it falls short of fulfilling the goal of meaningful field experiences. In other words, if little or no time is spent interacting with children, planning and implementing curricula, or documenting and analyzing children's development and learning, candidates have had no opportunities to develop and refine the skills needed to become effective, high-quality teachers of young children.

As previously stated, NAEYC provides guidance regarding clinical experiences for those who are preparing to become teachers of young children. All institutions whose early childhood education programs lead to teacher certification, and which are accredited through the Council for the Accreditation of Educator Preparation (CAEP), must provide data to demonstrate their effectiveness in the area of field experiences. In order to meet accreditation requirements, an institution must document high-quality field experiences regarding the types of placements included in candidate clinical experiences, as well as the ages of children with whom candidates are placed. Those

general guidelines are supportive of quality and certainly indicate the potential for excellence in early childhood education clinical experience. Still, it is the responsibility of each preparation program to create a series of authentic, robust field experiences; such opportunities, much like the early apprenticeship approach, can lead early childhood teachers to become skilled in the art and craft of supporting young children's learning and development under the supervision and mentorship of expert practitioners.

Conflict

One problematic issue, often discussed among those who prepare early childhood teachers as well as student teachers themselves, is the mismatch that candidates may find between what they understand to be best practices for young children and what they experience in many classrooms. Particularly in public school settings that are held accountable by state and federal policies, early childhood student teachers may experience feelings of inner conflict as they attempt to put into practice what they have learned in college courses. For example, candidates may be expected to teach young children through the use of worksheets, primarily in a whole-group structure, from a predetermined curriculum. This is in stark contrast to teaching practices that support young children's ability to learn best through active, authentic engagement with content that is individually and culturally relevant to children in classrooms. For the early childhood teacher-in-training, who has limited experience and is yet to have full decision-making ability, the internship experiences may range from mildly stressful to extremely intolerable.

Clinical Experiences = Authentic Learning

As a result of the coursework-to-classroom discrepancy, one might speculate that field-based experiences, designed to promote and solidify candidates' skills and abilities as early childhood teachers, may actually impede their opportunities to demonstrate excellence. However, many

candidates maintain their commitment to best teaching practices for young children, whether or not their clinical experiences provide consistent models. Indeed, a great many early childhood educators move into their first teaching assignments with the knowledge, ability, and conviction to provide outstanding, child-centered learning opportunities for young children. In those cases, one can assume that the internships and student teaching experiences have supported candidate understanding and are effective components of their respective preparation programs.

Involvement in internships, student teaching, and other clinical experiences provides early childhood teacher candidates with invaluable opportunities to learn. In the most positive cases, those experiences take the form of successful tutelage under expert, mentor teachers, with candidates engaged in planning and implementing quality, child-centered curricula. At times, however, those experiences involve learning how to navigate the conflict between theory and practice that too frequently exists when local practices are inconsistent with candidate pedagogical knowledge. Whether or not clinical experiences serve their intended purpose of allowing early childhood teacher candidates to observe and practice in a manner consistent with their growing professional knowledge, it is undeniable that those experiences play an important role in teacher preparation. Apart from the genuine context of young children in classrooms, future early childhood educators are lacking the most critical preparation of all: the actual practice of the art and craft of teaching. In order to develop the knowledge, skills, and dispositions necessary to fully support young children as learners—as whole human beings—early childhood teacher candidates must have opportunities to practice, with support from mentors and supervisors, all aspects of what it means to be a teacher.

Kelly A. Baker

See also Clinical Experiences; Internships; Mentors; Preservice Teacher Preparation; Teacher Preparation Policy and Practice; Theory to Practice in Early Childhood Education and Care

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SUBSTANCE ABUSE AND ADDICTION

Three areas are key when considering substance abuse in the context of early childhood. These are the impact of exposure to drugs of abuse during the prenatal periods, the impact of parental substance use on parenting and a child's environment, and the predictive factors from early childhood to the initiation of drug use in early adolescence.

Regarding maternal substance abuse and addiction during pregnancy, the fetus and infant are at risk because of the direct teratogenic effects of exposure to potentially neurotoxic drugs at key times in gestation, the exposure to maternal chronic stress and poor health that often accompany substance abuse during pregnancy, and the overall greater comorbidity with other psychiatric

disorders. In turn, psychiatric disorders such as chronic depression and anxiety potentially convey heightened genetic vulnerability to the fetus, impact an adult's ability to care for his or her child, and are associated with other contextual factors including joblessness, poor education, homelessness, greater risk for involvement with the criminal justice system, and overall greater risk for early involvement of child protective services. Parsing out each of these contributions to the long-term impact of maternal substance abuse is key to a more detailed and nuanced understanding of prenatal drug exposure though each is highly correlative with the others.

The fundamental logic for questions of prenatal drug exposure is whether exposure to a drug (or disruption of a developmental process because of the mechanism of action of the drug) during a specific phase of development causes a given outcome or outcomes immediately or later in development. One drug may produce several different outcomes depending on the amount and timing of the exposure, and there may be different dose-response curves for the different outcomes, that is, some developmental effects occur at lower exposures than others. Neurobehavioral changes may occur at lower doses than abnormal growth or disrupted organogenesis. There may also be varying dose-effect models; these can include a directly linear model, in which cumulative exposure results in increasingly worse outcomes, as well as a threshold model, under which only exposure above a certain threshold results in adverse outcomes. Further, many neurodevelopmental outcomes are not evident immediately in the newborn or early infancy but are only apparent across development as, for example, cognitive demands increase (e.g., the need to focus attention in school). Or adverse neurodevelopmental outcomes or vulnerabilities may only be apparent under stressful or depriving postnatal environmental conditions but are not evident under average, expectable caring environments.

Most, if not all, of the questions regarding prenatal exposures to drugs of abuse involve the more complex developmental models of exposure. For one, rarely are the exposures to a single drug. For

example, cocaine users typically also use other drugs including alcohol and tobacco. Secondly, rarely do drugs of abuse, even with heavy exposure, uniformly result in clear adverse outcomes, and the severity or extent of the developmental effect is variable. For instance, prenatal exposure to alcohol, sometimes even at high levels, does not consistently result in fetal alcohol syndrome. Thus, understanding the effects of prenatal exposures to drugs of abuse requires taking into account more complex exposure models and mechanisms including interactions between the drug exposure and the environment. That is, does the environment in one way or another moderate the fetus's risk of exposure as well as vulnerability to the potentially toxic effects of the exposure? For example, is prenatal cocaine exposure more toxic because of the often-associated poor maternal nutrition and/or poor access to health care? The drug-using environment may also determine other risk factors that mediate the severity of any exposure-related outcome. For instance, maternal depression and/or posttraumatic stress disorder are often associated with maternal addiction and in turn may impact the ability of a mother to care adequately for her newborn.

Genetic factors are also key, for it may be that the same underlying genetic profile that may increase the risk for abusing potentially addictive drugs conveys risks for other psychopathology (e.g., depression, anxiety) as well as transmits that same genetic risk to the fetus. Further, these same genetic factors may be more susceptible to the epigenetic effects of stressful environments. Indeed, many view addiction as a stress disorder and the result of impaired stress-regulatory neural mechanisms. In this perspective, what may be toxic about direct exposures to drugs of abuse is how that exposure impacts the emerging stress-regulatory systems in the fetus as well as the fetal exposure to the dysregulated maternal stress response system. Indeed, chronic prenatal stress in mothers results in changes to maternal stress and immune systems that may have direct effects on similar systems in the fetus. A growing body of human research also indicates the deleterious effects of

prenatal stress on birth outcomes and postnatal development.

With these caveats in mind, there are a few important generalizations regarding the overall neurotoxic effects of the most common drugs of abuse. There is a spectrum of disorders related to prenatal alcohol exposure ranging from fetal alcohol syndrome (fully or partially expressed) to so-called alcohol-related neurodevelopmental disorder and alcohol-related birth defects with associated cognitive impairments in varying degrees. Although less clear, prenatal marijuana exposure in humans may be associated with deficits in language, attention, and cognitive abilities. Prenatal opiate exposure is associated not only with neonatal withdrawal; children exposed to a prenatal opiate such as heroin also tend to perform worse on general cognitive tasks, including those associated with memory. Prenatal tobacco exposure is associated with lower birthweight and a potentially increased risk for conduct disorders in early childhood.

Drugs acting as potential neurotoxins during pregnancy may do so through mechanisms similar to those through which they exert their psychoactive effect for the addicted adult and hence it is important to understand their mechanisms of action relative to the timing of the exposure and the neurodevelopmental processes most active during that time. Prenatal cocaine exposure provides an illustrative model. Cocaine acts at the level of the synapse by blocking the reuptake and metabolism of the monoaminergic neurotransmitters dopamine, serotonin, and norepinephrine. In the adult, slower reuptake results in more stimulation of the postsynaptic neuron and hence, the neuroexcitatory properties of cocaine. But in the developing brain, monoamines exert a trophic effect on brain growth and neural differentiation and thus, changing the metabolism of monoamines at the level of the developing neuron may also impact neuronal growth and functioning. For example, in the nonhuman primate, cocaine impacts cortical differentiation and layering with the resultant disruption of the usual orderly layering of cortical neurons. Impacting the growth and

function early on of monoaminergic neurons may also directly impact monoaminergically regulated neuronal systems such as reward sensitivity and adaptive stress reactivity. Indeed, both of these outcomes are seen in animal models exposed to cocaine prenatally. The long-term effects of cocaine in humans is less clear with studies marked by a host of confounding factors including polydrug exposure and psychiatric comorbidity. That said, it appears that prenatal cocaine exposure may convey across development a greater vulnerability to the detrimental effects of chronic stress and greater difficulty in emotion regulation with the attendant increase in risk for mood-related psychiatric disorders by adolescence and young adulthood.

Central to the question of prenatal exposure is the postnatal environment that infants exposed to substances prenatally often continue to live in. In this regard, understanding how addiction impacts an adult's capacity to parent a child is key. Less important in this instance are the specific drugs of abuse—though each certainly has different neuropsychological effects in the adult—but more the effect of an addictive process on cognition, attention and reward mechanisms, and stress regulation. Key here is the definition of addiction of which substance or drug abuse is one example. Addiction is a state characterized by compulsive engagement in seeking rewarding stimuli despite adverse consequences. The stimuli are reinforcing, that is, they increase the likelihood that an individual will seek repeated exposure to them and they are intrinsically rewarding, that is, they are desirable. While a number of stimuli may initially be primarily positively reinforcing, many, if not all, addictive situations involve negative reinforcement, that is, the reward is in the reduction or avoidance of negative/stressful emotions. In other words, commonly, in the addictive situation or process, the relief of stress afforded by the drug leads to habitual drug use, and the reward system is “co-opted” to maintain habitual behavior linked to relief of stress or avoiding negative emotions. With this co-optation, other more adaptive rewards are not as salient for they are not part of the conditioned stress relief–reward link. Importantly, as

Helena Rutherford and colleagues have suggested, these more adaptive rewards include social affiliation and relationships, and this kind of co-optation has profound implications for parenting behaviors among addicted adults.

Parenting involves a special adaptation of both reward- and stress-regulatory neural systems to the relevant cues from offspring that become highly salient for the adult, now a parent. But for the addicted parent, the addiction process itself may impair those same neural circuits required for attention and response to the infant and the salient cues underlying caregiving. Indeed, while parenting behaviors vary considerably among addicted adults, there is a greater incidence of abuse and neglect of the infant and a tendency to withdraw from the infant's crying and distress, each potential markers of the adult's withdrawal from stressful situations and contexts. Further, addicted adults more commonly have histories of their own early abuse and neglect that increases their risk both for addiction and other comorbid psychopathologies as well as for repeating the abuse and neglect in their parenting role. They also more commonly suffer from depression and anxiety as comorbid conditions, thus increasing the stress and burden of the caregiving role.

The combination of greater vulnerability conveyed through both prenatal exposure and the postnatal caregiving environment sets the stage for increased risk across development for problems with stress regulation as well as impulse control and attention allocation and learning. As cognitive and developmental demands increase, these vulnerabilities may become more apparent. This is especially true in adolescence, a time of great neurodevelopmental reorganization and neuromaturation. Of great concern is the possible developmental line between both intrauterine and environmental exposure to drugs, the addictive environment, and the initiation of drug use in adolescence. Adolescence marks an important developmental period with heightened vulnerability to substance use and higher rates of dependency and substance use disorders during this developmental period when compared with adulthood. Further, the

earlier onset of substance use in adolescence predicts greater addiction severity in adulthood and greater comorbidity with other psychiatric disorders. Central to understanding the risk for substance use and abuse in adolescence is an apparent development paradox that contrasts the near-adult-level maturity of executive and decision-making functions with heightened risk-taking behavior even with prior knowledge of the consequences of this behavior. In adolescence, the cognitive control system, including prefrontal and parietal regions and the anterior cingulate, is crucial to decision making but is functionally dominated by a second affective system that includes regions that are important to processing reward and social and emotional salience, including, but not limited to, the amygdala, ventral striatum, orbitofrontal cortex, medial prefrontal cortex, and superior temporal sulcus. The dominance of the affective system contributes to heightened reward sensitivity and a reward-seeking behavior, a crucial factor biasing decision making and contributing to increased experimentation with drugs and the emergence of substance use and abuse. Further, the long-term effects of exposure to drugs and chronic stress prenatally and to an addictive, postnatal caregiving environment contribute through a host of mechanisms including epigenetic ones to a more vulnerable stress-regulatory system in adolescence. When heightened reward-sensitivity and reward-seeking behavior are coupled with this long-term developmental effect on stress-regulation during adolescence, those youth are more likely than their nonexposed peers to seek out drugs and to convert from use to abuse. In this way, prenatal drug exposure with the attendant postnatal effects through the caregiving environment have a two- and three-generation effect on the likelihood of substance use and abuse. This complex intergenerational transmission mechanism may inform the often-observed multigenerational history of substance abuse and addiction in families. Further, understanding the mechanisms for the potential intergenerational transmission of vulnerability to addiction points to intervention models that focus more on family health, stress management, and

attending to the parenting capacities of substance abusing mothers and fathers.

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See also Mothers; Neonatal Health and Development; Parenting Effects on Child Development; Prenatal Mental Health

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TEACHER BELIEFS

Teaching is complex and teacher practice is influenced by teacher knowledge, beliefs, and experiences, children's characteristics, administrative and parental expectations, and resources available. This entry provides information on teacher beliefs: how beliefs influence behavior, sources of beliefs, and how beliefs are formed and changed. The focus of this entry is on two distinct belief strands: (1) teacher beliefs about the nature of learning and teaching and (2) teacher beliefs about their own abilities.

Overview

Teacher beliefs are major determinates of classroom practice. Beliefs differ from knowledge in that knowledge is based on objective facts or evidence whereas beliefs are based on affect, subjective evaluation, and judgment. Beliefs are referred to as attitudes, feelings, values, or dispositions. Beliefs influence teacher perceptions, judgments, and decisions every day. In early childhood education, beliefs encompass caregiving, parenting, and teaching. The variation of beliefs is great because everyone has experienced being a child and a student and most have been raised in a family. When courses about child development, subject matter methods, or family involvement are introduced, prospective teachers already have experiences and core beliefs about those topics. The strength of

these core beliefs of course participants will impact the effectiveness of any formal educational effort.

Beliefs About the Nature of Learning and Teaching

Teacher beliefs about the nature of learning and teaching influence classroom decisions and teacher behavior toward children, family members, and administrators. The interactions in the classroom are multifaceted, and there are a high number of ongoing decisions that have to be made when expectations are vague, ambiguous, or conflicting. Beliefs guide the decisions when practice is unclear. In early childhood, teacher beliefs and practices fall along a continuum of philosophical principles from learner centered to teacher directed. For instance, the curriculum the teacher selects is partly guided by teacher (or administrator) beliefs. If the teacher believes that children learn best by constructing their own knowledge (learner centered), then teachers will offer inquiry experiences, small groups, and opportunities for peer interactions. The classroom will be arranged in centers with lots of objects and resources available for children to explore. Teachers will provide a curriculum framework of projects or themes based on children's interests. Teachers will interact with the children individually, in small groups, or, when appropriate, in larger groups.

If the teacher believes children learn best by listening to and learning from adults (teacher directed) or other sources, then teachers will offer lots of large

group experiences and very little child choice in the classroom. The curriculum framework provided would be scripted curriculum or teacher-directed curriculum units.

If a teacher believes that family members care and can contribute to their child's education, that teacher will more likely welcome family participation and involvement. If a teacher believes that family members cannot be partners in their child's education, that teacher will not offer opportunities for families to become involved in the classroom activities. Although many other factors contribute to these practices, the level of effort, affect, and motivation teachers feel will come from teacher beliefs.

Teacher Beliefs About Their Own Abilities

Albert Bandura's self-efficacy theory describes how teachers are influenced by how they feel, think, behave, and motivate themselves. Self-efficacy beliefs are not skills but the belief of what one can do with those skills. Self-efficacy beliefs are actually better predictors of behavior than actual capabilities. Even if one has the skills and knowledge, if she does not believe she can be successful, chances are she will not succeed. Self-efficacy beliefs are situation specific. The strength of a self-efficacy belief helps determine how much effort teachers will expend on an activity, how long teachers will persevere when confronted with obstacles, and how resilient teachers will be when faced with adversity. For instance, a teacher may be conducting a science experience with young children. If the teacher feels or believes he can carry out the activity, that is, understands the science concepts (high self-efficacy), he will be successful, or if he is doubtful, he will tell the children that they need to look up the answer together. If the teacher feels or believes he does not like science (low self-efficacy) or he believes he does not understand the concepts, he may skip the activity or present it without conviction or enthusiasm.

Teacher effectiveness will vary from one task to another. Teachers ask themselves questions every day, all day long about being successful with all children, managing the classroom, and helping children learn. A strong sense of efficacy fosters a

high level of enthusiasm, learning, and development of intrinsic interest in learning. Some of the major research specifically related to self-efficacy and teaching include the following outcomes:

- Teachers with a high sense of instructional efficacy believe that all children can learn and use a variety of strategies to ensure that all children learn. When setting goals, teachers work with students, making joint decision making and learning the primary focus.
- Teachers with a high sense of teaching efficacy take personal responsibility for student learning.
- Teachers with high self-efficacy have an openness to student ideas and feelings whereas teachers with low instructional efficacy have more of a custodial orientation, present a more skill-based curriculum, control through strict regulations, and have a negative view toward challenging behavior.
- Teachers with high personal and professional self-efficacy feel good about themselves and believe teaching can make a difference in the lives of children.

The early years are a formative time for young children to develop their own conceptions of their capabilities. Children learn about their capabilities through social construction with adults, peers, and experiences. When activities are challenging but matched to the children's abilities and young children are successful, they will form a positive perception of their ability to learn. Early childhood teachers' sense of efficacy is likely to be especially influential since young children are still forming their beliefs about their capabilities. Teacher beliefs are central to the socialization process and help set a climate for learning.

Sources of Beliefs

Many factors influence beliefs, including the teacher's prior experiences and education, classroom and school contexts, and mandates. Personal and professional experiences are a main source of beliefs. Family experiences and upbringing will be a fundamental source of how one believes people

are treated and how one interacts with others. M. Frank Pajares has commented on the fact that prospective teachers in teacher education programs believe they know how to be a teacher because they have been in a classroom for 12 years. Professional experiences via practicums and student teaching offer examples for novice teachers to form, question, or reinforce beliefs. Formal professional opportunities influence belief systems by exposing prospective teachers to new ideas and knowledge. Efficacy beliefs are enabled by providing opportunities to learn skills to make teachers feel more confident.

Situational contexts will impact beliefs. If a teacher feels comfortable about a situation, she will be more successful, for instance, if she has the knowledge to accomplish a task that is necessary but not sufficient for competent performance. The teacher must also feel or believe she has the ability to organize and execute the task. People behave according to the context or situation, and the degree of similarity to other successful experiences will increase the likelihood of accomplishment.

Bandura has presented four sources of self-efficacy beliefs: (1) successful experiences, (2) vicarious but successful experiences, (3) verbal persuasion, and (4) enhanced physical status. When designing experiences for a prospective teacher, the best way to enhance self-efficacy beliefs is to provide for successful experiences. When a prospective teacher can see the impact of helping children learn a concept or skill, he will more likely believe in his ability as a teacher. When a prospective teacher can see successful implementation of strategies and the impact of learning through vicarious experiences, there is also a possibility of the teacher feeling that he too can accomplish that task. The closer the experience the prospective teacher views to what he has to do will also increase the likelihood of higher self-efficacy and successful completion of a task. Verbal encouragement that she can accomplish a task from significant others has the likelihood of increasing self-efficacy beliefs. And last, reducing stress levels and recalling past successes will enhance a prospective teacher's physical states so he can feel like he can accomplish a task.

Changing or Guiding Beliefs

Teacher educators and administrators may want to know how to influence prospective or current teachers' beliefs. Beliefs and belief systems are difficult to change or alter. Since beliefs are constructed through experiences, some are formed early and are resistant to change or modification. Measuring the strength or intensity of the belief before any effort is made to alter it will provide valuable information. Sometimes one can tell what people believe by their practice or by a survey. The relationship between beliefs and practice is one that is worthy of exploring in teacher education programs.

Here are some steps to follow when providing for teacher education or professional development experiences. First, try to have participants reflect on current beliefs. Articulate and examine beliefs through whole-group discussions, case studies, journaling, simulations, and small-group reflections. Pajares has stated that unexamined beliefs perpetuate the status quo and many times ineffective practice. Second, link beliefs to practice. If teachers believe that all children can learn, discuss what that will look like in the classroom. Verbalize the practices that will represent this belief. Once the teacher can operationalize the belief, then examine the practice and determine to what extent the interaction or strategy is successful. Change is more likely to occur in experiences where teacher and prospective teacher listen, reflect, and learn from one another.

Next, increase the knowledge base and skills. Increasing the knowledge base and skills will lessen prospective teacher self-doubts and sense of vulnerability. Vicariously present through video the practices that are most effective while discussing why the practice is the most effective strategy. Technology has enabled the use of videos to demonstrate effective practice in classes on campus. Observing or providing opportunities for real experiences are even more powerful. Reflecting on experiences can provide the difference that could alter a belief.

Self-affirming experiences will help enhance beliefs. When prospective teachers can actually

see practices that were discussed in methods courses, beliefs will be enhanced. When prospective teachers can be placed in classrooms where they can implement course ideas, then teacher education program philosophic strategies will be reinforced.

Last, if prospective teachers have progressive beliefs that are aligned with effective practices, those beliefs need to be acknowledged and supported. Those progressive beliefs need to be at the core of the prospective teacher's belief system.

Sue Vartuli

See also Early Childhood Education; Professional Dispositions of Early Childhood Educators; Sociocultural Theory; Teacher Preparation Policy and Practice

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TEACHER EDUCATION

See Early Childhood Teacher Education; Preservice Teacher Preparation

TEACHER MATERIALS FOR DOCUMENTATION

In the field of early childhood education, the term *documentation* is used in two ways. First, documentation is the act of collecting and sharing evidence of growth in children's knowledge, skills, and/or dispositions (i.e., documenting children's learning). Second, the materials that are shared as evidence also are referred to as documentation. This entry examines documentation practices and strategies for effective documentation. It further outlines why documentation is an effective way to collect evidence of children's development over time, the importance of displaying documentation, and best practices in documentation.

Documentation: An Active Process

Documentation is particularly useful in assessing the growth and development of young children's knowledge and skills since it is more reliable than standardized assessments for children 8 and under. In addition, documentation allows teachers to assess changes in dispositions or inclinations of temperament (e.g., persistence, impulsiveness, curiosity). Evidence of children's growth is typically collected over time and provides a picture of a child's ongoing development, as opposed to a snapshot of one moment in time provided by standardized assessments. Documentation also allows teachers to examine and share the progress of children whose performance may appear delayed when compared with that of other children (e.g., children with special needs, dual-language learners, children from low socioeconomic backgrounds).

While a learning experience may produce the same outcome for multiple children, each of the children may reach that outcome via a different pathway. Documenting children's learning over the course of an emergent learning experience may help a teacher gain insight into *how* individual children reach an outcome. The teacher can then use that insight to develop more effective strategies for individualizing instruction. She may also develop insights

into the experience and growth of the group as a whole, and can use these insights to improve the responsiveness of her overall instruction.

Documenting children's learning can also help a teacher in communicating the value of her method or approach to teaching to families and others whose approval that teacher might seek. For example, teachers who provide emergent learning experiences that are responsive to the interests and abilities of the individual children in the class, such as the project approach, may document for purposes of accountability. By documenting emergent learning experiences teachers may demonstrate that children in their classes are meeting learning standards, and they can track the meaningful process through which the standards are being met.

Documenting children's learning also supports the ability of teachers to reflect on the content and quality of their own teaching and to share their experiences with other educators. As teachers engage in collecting, selecting, and preparing documentation of children's individual and group learning experiences, they may become more aware of strategies or experiences that worked well or those that needed revision. Documenting then becomes a kind of professional development activity, as a teacher studies her own teaching. Documenting children's learning also can contribute to a teacher's professional development when it is used as a basis for discussion with other teachers. Teachers can use their documentation as a context for discussing the merits of teaching practices and experiences with colleagues.

Strategies for Documentation

Teachers use a variety of strategies to document children's learning. When teachers are aware of developmental pathways across domains of learning, they can use active observation to identify the progress of individual children or the group as a whole. Teachers can collect data by observing and collecting samples of what children make, say, and do. Samples might represent the process a child or children go through as they use materials in the environment to help them think about something

or develop a new skill or disposition. They may be collected at various points in the process of learning about something. In other words, they are not necessarily the final product of a learning experience.

Examples of what individual children make might include drawings, three-dimensional constructions, block constructions, or writing samples, while examples of what groups of children make might include group murals or group three-dimensional models or constructions. Examples of what individual children say (e.g., "My grandma told me I'm a good drawer, and it's true!") might be captured with anecdotal notes, or with audio or video recordings of children's statements, while examples of what groups of children say might be captured with a web, list, or book in which multiple children have contributed ideas and illustrations. Examples of what individual children do (e.g., engaging in complex play representing the activities of a pizza parlor manager) might be recorded through anecdotal notes, photos, or video. In addition, some behaviors can be documented by tracking their frequency, duration, or location within the classroom on a matrix or other specially prepared form. Developmental checklists, such as Teaching Strategies GOLD, the Child Observation Record, or the Work Sampling System help teachers to monitor growth in children's abilities.

Documentation: Evidence of Children's Growth Over Time

The term *documentation* also refers to the evidence of the children's work that the teacher has collected (e.g., anecdotal notes, audio recording, work samples) and to the picture of the process of learning and development of individual children or groups of children created over time through a display of their work. Thoughtful display of the evidence can effectively create a picture of the learning experience and growth in knowledge, skills, or dispositions of an individual child or a group of children.

The combination of multiple samples is a useful strategy for demonstrating growth. For example, a teacher might jot down a record of what a child says as she draws a picture of a car. The child's

comments might reflect an understanding that tires have letters and words on them (e.g., the child says, “ATA, that’s the plane I rode on,” as she writes the letters A, T, and A on one of the tires in her picture of a car). Displaying this statement in combination with the child’s drawing of a car, plus a photographic image of a real tire, would be more powerful evidence of the child’s understanding than displaying the child’s statement in isolation.

Teachers in U.S. schools and child care centers typically send children’s work home once it is completed. However, teachers who save samples of children’s work over time are better able to document growth. For example, at the beginning of a project on butterflies, a child might draw a butterfly as a body with two triangle wings and a smiling face. However, after six weeks of investigation, the child’s drawing might include four wings with scales, three body segments, antennae, and a proboscis. Displaying the two drawings side-by-side creates a picture of the growth in the child’s knowledge about butterflies. If the teacher had not saved the first (Time 1) drawing, she would not have the solid evidence of growth in knowledge and understanding depicted by displaying the Time 1 and Time 2 drawings together.

Displaying Documentation

Teachers of young children typically display young children’s work on a bulletin board in the classroom or hallway. Often, every child’s product from a class art activity is on display. Lines of cut-and-paste art projects are stapled to cork strips that line the school hallways. However, by combining sample products of various activities that have taken place during a long-term learning experience, such as a project, teachers can effectively tell the story of the process children went through as they engaged in the learning experience.

As teachers prepare displays of documentation it is important for them to consider the potential audience. Depending on where the documentation will be displayed, the audience might include family members, colleagues, children from the teacher’s class, children from other classes, the teacher herself, and/or individuals who make decisions

that affect support for the teacher’s center or school. Depending on the audience, the teacher may need to include more information about the context for the learning experience, and he may decide to include a narrative that frames the learning experience for that audience. Of course, the teacher and the children from the class are almost always a primary audience. As they select and prepare documentation for display, and as they view the display, teachers deepen their understanding of their individual students’ learning and on their role as the teacher in the learning experience. Children reflect on what and how they have learned.

Teachers who document project work often have a specific bulletin board or area where they display samples of children’s work that is used as a collection point for documentation of the events in the life of the project. This board serves as a sort of diary in which children and teachers record the history of the project (i.e., a project history board). Teachers can take advantage of the potential of this board by including children in the selection of samples of work to be displayed (e.g., “What should we add to our project board that will show what we discovered today?”). This practice helps children learn to appreciate the abilities of others in their class and strengthens the connections among the class community.

When a teacher has a rich, long-term, emergent learning experience developing in his classroom, he may begin to run out of room on the project history board. At that point, he may select samples from the earlier stages of the learning experience and prepare a more formal display for more public areas in the center or school. For example, he might prepare a hallway bulletin board display of children’s work and photographic images with accompanying narrative. In this display, the teacher can help viewers to understand how the project developed, as well as the role individual children played in the learning experience. He can highlight the influence project participation had on growth of children’s knowledge, skills, and dispositions.

Sometimes teachers wish to distill or reduce the size of the documentation display even further. For example, the teacher might want to take documentation of the project to a meeting with colleagues,

display documentation of the project at a meeting of a professional association at the state or national level, or display documentation of the project at the site of the project investigation (e.g., displaying documentation of a project on pizza at the local pizza parlor). In this case, cardboard or foamcore trifold panels, such as those used in science fairs, are often used. Preparing professional-looking trifold displays requires attention to aesthetics and precision in preparing and attaching the samples and narrative.

As computer software has developed and become increasingly user friendly, teachers are able to reduce the time needed to prepare documentation panels and increase the professional appearance of the panels. For example, a teacher can now electronically insert textboxes, images, and scans of children's work. She can size and resize images, move them from place to place, and experiment with fonts and font sizes that increase the power of the documentation in providing evidence of children's learning. Once she is satisfied with her display, the teacher can save it as a PDF file and have it printed as a poster. She can mount the poster for display and conveniently remove it and roll it up for transport or storage. Some teachers also use online, password-protected, user-friendly sites to share documentation of children's learning with children's families. It is important to note that whenever a teacher includes children's images and work, she must have permission from each child's parents or guardian.

While poster and wall displays are discussed here, teachers are encouraged to create other ways to share documentation. For example, some teachers develop binders that document a learning experience. Children can then check the binder out and share it with their family at home. Weekly or biweekly newsletters are an excellent place to document the ongoing development of a learning experience. Some teachers have helped children to develop video presentations in which their students document their own learning. The video is then made available to families on a password-protected site or it is recorded on a CD which is copied for every student's family. Early childhood teachers are encouraged to channel the energy and creativity they formerly expended on "cute" bulletin boards

toward the development of innovative documentation of children's learning.

Strategies for Effective Documentation

Several strategies or rules of thumb can help a teacher prepare an effective panel. First, the less-is-more rule applies here. Potential viewers are less likely to read a documentation panel if it is overcrowded. Balancing empty space with the space taken up by images, samples, and text is important. In addition, grouping items closely together and surrounding them with empty board space sends the message that the items are related. The less-is-more rule also applies to the length of sentences and to the overall length of the narrative. Crafting narrative so that it is succinct but informative increases the likelihood that potential viewers will take the time to read what a teacher has written.

Potential viewers are more likely to be drawn to a panel when it appears lively. However, liveliness should not be equated with loud. Teachers in early childhood education have a tradition of putting up bulletin boards that make use of a variety of primary colors and decorative shapes to draw attention to the board. However, the children's work tends to get lost in the chaos of colors and shapes. Limiting colors used to frame children's work to one color family (e.g., blues, greens, oranges) and avoiding "cute" decorations allow the children's work to stand out. It sends a message to the viewer that the children's work is interesting and worthy of close examination. Another common practice is to display young children's work tilted to the left or right on bulletin boards. Again, this practice sends a message that the children's work is not interesting, since the teacher used it merely as decoration. Teachers can make their displays livelier by developing intriguing titles for their displays, including artifacts and three-dimensional articles in the display, and including quotes from children that reflect their thoughts and feelings about their individual work or participation in the learning experience. It should also be noted that displays in which images are the same size and presented in rows communicate monotony.

Varying the size of images and samples of children's work can contribute to a lively display.

Sallee Beneke

See also Academics and Academic Assessment in Early Education; Authentic Assessment; Checklists and Rating Scales; Documentation; Project Approach

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TEACHER PERFORMANCE ASSESSMENT

Teacher performance assessment refers to the evaluation of teaching practices using measures that gather authentic evidence of the day-to-day tasks of teaching. Performance assessment is sometimes used within the context of accountability policy. There is much debate about how to evaluate teaching quality, teacher effectiveness, and accountability for classroom learning. Although many express concerns about an overemphasis on standardized testing as the sole measure of student learning, there is a strong call by

the public to ensure that all teachers are well prepared to meet the learning needs of America's increasingly diverse learners. This entry presents a description of a recent innovation in teacher performance assessment known as edTPA and its use as a measure of teaching effectiveness for early childhood educators.

Overview of edTPA

National organizations like the American Federation of Teachers (AFT) and the Council of Chief State School Officers have asked for a consistent expectation of "readiness to teach" and to ensure that teaching is recognized as a profession along with medicine, law, and so on. As argued by Lee Shulman as the basis of the National Board for Professional Teaching Standards, establishing teaching as a profession requires an agreed-upon knowledge base for effective teaching, and standards of practice that are clearly defined, communicated, and enforced through a certification process. Understanding the important relationship between how children learn and the ways in which teachers are assessed, edTPA follows specific design principles to ensure an assessment focus on student learning through intentional teaching practices and the systematic collection of authentic teaching artifacts. edTPA was developed to provide valid and reliable evidence that newly certified teachers are ready to take on the challenges of classroom teaching from their first day on the job.

Built upon generations of portfolio-based assessments of teachers, including the Early Adolescence/English Language Arts (EA/ELA) assessment from the National Board for Professional Teaching Standards' first assessment development laboratory to assess accomplished teachers, the Interstate Teacher Assessment and Support Consortium (INTASC), the Connecticut Beginning Educator Support and Training (BEST) assessment for early career teachers, and the Performance Assessment for California Teachers (PACT), edTPA is a portfolio-based performance assessment of teaching developed at Stanford University with input from hundreds of educators and university faculty from

across the country. edTPA is currently used by more than 700 teacher preparation programs in 40 states, and teacher candidates in 13 states must complete and pass edTPA as part of their teacher preparation program requirements prior to becoming a licensed teacher.

edTPA Common Architecture

As a performance measure of teaching, candidates completing edTPA plan, teach, and analyze a learning segment of three to five learning experiences taught to a group of P–12 students. Candidates document their teaching using authentic artifacts of practice including context information, plans, video clips, and evidence of student learning. Candidates are continually prompted to consider and evaluate how their understanding of the children in their class has informed their plans, instruction, and assessments.

edTPA is a subject-specific assessment, and each of the 27 versions shares a common three-task architecture (planning, instruction, and assessment). However, each version emphasizes key elements of subject-specific pedagogy based on standards determined by the field and a subject-specific design team. For example, the subject-specific learning emphasis for elementary mathematics requires that candidates support students to demonstrate mathematical practices as they develop procedural fluency, conceptual understanding, and problem solving and reasoning skills. In elementary literacy, for example, teacher candidates support their students to develop an essential literacy strategy for comprehending or composing text, as well as the skills necessary to use that strategy in meaningful contexts. In early childhood, candidates must promote the active and multimodal nature of young children's learning and language and literacy development through interdisciplinary learning experiences. In each of the 27 versions, although the particular content varies, all candidates are expected to support children's learning across three to five experiences and tailor their instruction to reflect their knowledge of students' prior learning, knowledge, and experiences. Candidates

must verify which edTPA handbook to use as determined by an alignment of edTPA handbooks and state credential/licensure areas provided by each state.

edTPA evaluates evidence for 15 constructs associated with effective teaching distributed across the three tasks of the integrated portfolio.

For Task 1: Planning—Candidates demonstrate how their instructional plans build student learning for a subject-specific focus and articulate how those plans meet the strengths and learning needs of their students and how they will plan to monitor student learning across the learning experiences documented.

For Task 2: Instruction—Candidates provide video recordings of their teaching to demonstrate a positive learning environment, how they engage and monitor students in learning, and a key pedagogy approach specific to their field.

For Task 3: Assessment—Candidates analyze student learning through work samples and other evidence, provide and evaluate feedback that supports children's learning, and determine next steps for teaching based on assessment information.

Throughout the three tasks, the candidates explain, justify, or analyze their teaching in reference to their subject-specific teaching and learning focus.

Last, teacher candidates are expected to plan for and to analyze the degree to which their teaching facilitates learners' development and use of academic language in support of deep content learning. edTPA's attention to academic language as the language of the discipline and key language functions (e.g., argue, explain, infer, interpret) is consistent with expectations articulated in the Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects (Common Core State Standards Initiative, 2010) and intends to leverage teaching practices associated with closing the academic achievement gap for English language learners and all students learning the language of school.

Early Childhood Version of edTPA

edTPA for Early Childhood is consistent with the 2010 NAEYC [National Association for the Education of Young Children] *Standards for Initial and Advanced Early Childhood Professional Preparation Programs* and the National Board for Professional Teaching Standards (NBPTS) *Early Childhood Generalist Standards*. edTPA for Early Childhood also requires that the candidate create a learning segment that includes developmentally appropriate practices that intentionally promote the active and multimodal nature of young children's learning and language and literacy development in an interdisciplinary context. Consistent with the field, developmentally appropriate practice within edTPA requires that the teacher support the whole child through supportive and challenging active learning experiences that indicate an understanding of the current developmental, cultural, and linguistic strengths and needs of young children. Although the professional organization considers early childhood to be birth to 8 years of age, the Early Childhood edTPA is most appropriate for use in classroom environments with children who are toddlers or older.

Given the importance of language for young children, the Early Childhood edTPA focuses on the candidate's ability to support language and literacy development. Consistent with many early childhood settings, instruction should take place across disciplinary contexts and attend to the interrelated processes of listening, speaking, reading, writing, and visually representing in a learning environment that supports the whole child and provides a healthy, respectful, supportive, and challenging context for learning. Although the full scope of an interdisciplinary and interrelated curriculum may not be feasible in a short learning segment, candidates should construct the learning segment in a comprehensive and integrated way in order to support the whole child and take into account the active, multimodal nature of young children's learning.

Features Unique to edTPA in Early Childhood

The Early Childhood edTPA was intentionally designed and developed to assess candidates' support

of young children's learning. Although state policy may vary with regard to the requirements of teaching placements, including age and grade levels, the Early Childhood edTPA requires the candidate to plan for thoughtful and intentional teaching that promotes the active and multimodal nature of young children's learning. In addition to the subject-specific emphasis, the Early Childhood edTPA has several unique features embedded into the assessment to acknowledge the teaching of young children. Below are a few examples that distinguish Early Childhood edTPA from other edTPA versions.

- Certain terms are used only in the Early Childhood handbook. For example, the term *children* is used in place of *students*; *learning experience* is used in place of *lesson plan*.
- Given the various ways children demonstrate their learning, in Task 3 candidates are required to submit multiple forms of evidence of children's learning to analyze. These sources of evidence should include observation/anecdotal notes, video/audio evidence, pictures, drawings, writing, and so on.
- edTPA assesses academic language and its function in subject matter learning; however, in Early Childhood, the focus is on vocabulary. *Vocabulary* for the purposes of academic language within edTPA is defined as the developmentally appropriate sounds, words, phrases, sentences, and paragraphs that a candidate wants children to use or create to engage in a learning experience.

Each of the differences in the Early Childhood edTPA is intentional and attempts to provide an assessment of authentic teaching practice in the early childhood setting.

edTPA in Early Childhood or in any other content area is not intended to be used by states as the sole measure of candidate effectiveness. edTPA is recommended as part of a multiple-measures system of assessments—so that states ensure that all teachers who enter a classroom are ready to teach on Day One. This approach to recommend candidates for licensure is not only a preparation issue but also an equity and readiness issue.

Benefits of edTPA

State policy makers and teacher preparation programs understand that the future of the public education system resides in its teachers and leaders. All teachers, especially those teaching young children, must understand who they are teaching and the important fact that each child brings unique knowledge and experience into the classroom. edTPA provides an opportunity for candidates to demonstrate their knowledge of their students and their pedagogical approach. Unlike other licensure assessments, edTPA aims to support candidate and program learning, as well as to measure desired outcomes. edTPA provides states and preparation programs with a rich array of resources that support its educative implementation, including handbooks to guide implementation, extensive feedback to candidates and programs, and scoring opportunities for school- and university-based faculty. edTPA complements existing entry-level assessments used by states that focus on basic skills or subject matter knowledge and campus-based evaluations of clinical practice, coursework, grades, and curriculum-embedded assessments of candidate performance. edTPA provides meaningful data to support teacher education programs as they evaluate, reflect on, and continually improve their programs to ensure a rigorous, integrated curriculum centered on student learning.

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See also Authentic Assessment; Early Childhood Teacher Education; Measuring Effectiveness; Pedagogical Knowledge

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Websites

edTPA: <http://edtpa.aacte.org>

National Board for Professional Teaching Standards:
<http://www.nbpts.org>

TEACHER PREPARATION POLICY AND PRACTICE

Teacher education programs use research, theory, and practice to provide individuals with knowledge, skills, and attitudes to educate young children. Early childhood teacher education programs include five components: (1) recruitment and selection, (2) general education, (3) professional foundations, (4) instructional knowledge (Saracho & Spodek, 2003), and (5) field experiences and clinical practice (Saracho, 2013). Most teacher education programs have these components with some variation in their content except for the field experiences and clinical practice. The following sections describe these components.

Recruitment and Selection

The value of early childhood programs depends on the quality and attributes of the teachers. Teacher education programs establish an explicit set of criteria to recruit and select teacher candidates. Their selection process ranges from open admissions to employing a set of standards such as grade point average, standardized test scores,

written profiles, letters of recommendation, and both individual and group interview performance (Casey & Childs, 2007).

The standards-based accountability reforms in early childhood education have generated new challenges for the field (Brown, 2011). The development of accountability requires schools to increase their students' achievement. Therefore, teacher preparation programs need to make critical decisions on their recruitment and selection of teacher candidates to graduate highly effective teachers who can cope with challenging situations and solve problems that go beyond their preparation. The selection and acceptance of teacher candidates suggest that after they have completed the teacher education program they will become highly effective teachers (Clark, 2010).

General Education

General education provides teacher candidates with a unique concept, mode of thinking, structuring of concepts, and preparation. It merges with subjects such as language, social studies, science, communication, social sciences, history, and fine arts. General education helps teacher candidates to develop in the areas of music, art, literature, health, safety, nutrition, physics, biology, mathematics, oral/written communication, technology, and many more. Children's literature is an aspect of literature that is similar to the content areas of art and music. The core of early childhood education depends on the general education disciplines that offer the field's content knowledge. However, this knowledge must be merged and understood to develop a broad perspective in relation to the general conditions of human life (Saracho & Spodek, 2003).

In general education, teacher candidates learn how to help young children explore and interpret their world in a meaningful way, which requires teacher candidates to obtain a broad and liberal education. Lately, technology is considered a discipline in general education. It offers teacher candidates with education and instruction in technology where they learn (a) to use computers in the present digital age and (b) to motivate children to use

computers expressively and in creative ways (Bers & Kazakoff, 2012).

The American Association of Colleges for Teacher Education's (1977) standards for accreditation of teacher education programs recommend that "general education should include the studies most widely generalizable. General studies is taught with emphasis upon generalization rather than academic specialization as a primary objective" (p. 4). Professional accreditation programs of schools, colleges, and departments of education have set up a process to ensure that the teachers are well prepared to become highly qualified teachers (National Council for Accreditation of Teacher Education [NCATE], 2010; now known as the Council for the Accreditation of Educator Preparation [CAEP]).

Professional Foundations

Professional foundations are sources of education such as history, philosophy, sociology, economics, psychology, politics, anthropology, linguistics, and multicultural education. Teacher candidates obtain a broad foundation of knowledge *about* education rather than professional strategies (Peters, 2010). They learn about the history and traditions of early childhood education, principles of child growth and development, learning theory, and various education-related contexts such as cultural, social, and political (Saracho & Spodek, 2003).

Child development is a basic domain in early childhood education. Developmental stages determine young children's approaches to learning and learning processes as well as the selection of developmentally appropriate materials and practices. The National Association for the Education of Young Children (NAEYC) has established developmentally appropriate practices to use as a framework of principles and guidelines for best practice for young children's optimal learning and development (Copple & Bredekamp, 2009).

The federal legislation of the No Child Left Behind Act demanded that early childhood education programs hire "highly qualified teachers." This means that early childhood education teachers learn and understand the range (ages birth to age 8) in young children's development and learning to be

able to offer an effective curriculum and appropriate instruction for them (Copple & Bredekamp, 2009). Professional foundations also provide teacher candidates with knowledge about the children's cultures, languages, and principles that stimulate language and language acquisition. However, general education also provides teacher candidates with this knowledge.

Instructional Knowledge

Instructional knowledge refers to the knowledge that teachers utilize in classroom practice, planning, and evaluation. It provides the teacher candidates with knowledge to select and sequence strategies and methods of instruction in addition to developing educational goals for children. Some teacher education programs integrate aspects of instructional knowledge in different courses, whereas others offer it in separate courses. Instructional knowledge helps teacher candidates learn both knowledge of teaching and knowledge of theories and teaching methods. They learn ways to (a) organize and develop instructional plans, (b) evaluate children and learning, (c) identify individual differences, (d) be culturally sensitive, (e) know the children's cultural background, language, strengths, and needs, (f) use educational resources, and (g) create educational policies and practices (Shulman, 1986). Olivia Saracho (1984) utilizes knowledge of the classroom situation to understand the teachers' professional roles:

- *Curriculum designer* refers to the way teachers develop their curriculum based on theories and practices of early childhood education and the community's interests.
- *Decision maker* refers to the way teachers persistently make decisions about children, materials, activities, and goals.
- *Organizer of instruction* refers to the way teachers utilize educational goals and accessible resources to plan long-range and short-range classroom experiences.
- *Manager of learning* describes how teachers use the learning environment to provide learning experiences based on young children's interests.
- *Diagnostician* refers to the way teachers evaluate the young children's strengths and needs to devise developmentally appropriate and effective learning experiences for them.
- *Counselor/advisor* refers to the way teachers constantly interact with, emotionally support, and provide appropriate assistance to young children.

These roles describe the early childhood teachers' instructional goal and duties. Teacher candidates' effective performance in each role requires them to acquire knowledge, skills, and attitudes to effectively use the principles and practices of early childhood education in the learning process.

Teacher candidates need to know how learning takes place, factors that influence learning, situations for learning, and modifications based on children's needs (e.g., individual needs, interests, attitudes, motivations). In addition, they need to know both curriculum content and instructional strategies that motivate young children to become interested in learning in a variety of educational contexts as well as how to apply developmentally appropriate practices to teach them.

Field Experiences and Clinical Practice

NAEYC (2011) describes field experiences and clinical practice as field observations, field work, practica, student teaching, and other "clinical" practice experiences such as home visiting. A well-planned sequence of these experiences assists teacher candidates to acquire understanding, competence, and dispositions in a specialized area of practice. They also acquire knowledge, skills, and professional approaches that are indispensable in furthering young children's development and learning across the complete developmental period of early childhood from birth to 8 years of age and in different early childhood education settings (e.g., primary grades, child care centers, homes, Head Start).

Field experiences and clinical practice are essential components in the preparation of early childhood education teachers. They integrate collaboration, accountability, and practices related to professional learning. Field experiences provide

teacher candidates with numerous school-based possibilities to observe, assist, tutor, teach, and participate in service learning projects or conduct practical research. Clinical practice includes student teaching and internships that provide teacher candidates with experiences that allow them to totally immerse themselves in the learning community in order to become proficient in their professional roles. Candidate interactions with children's families and communities and their use of technology help them to teach, learn, and perform other professional responsibilities (NCATE, 2008).

Field experiences and clinical practices need to be provided in high-quality settings for teacher candidates to learn and practice. Ideal field placements assist teacher education programs to achieve the goal of preparing well-educated and socialized teachers. Robert V. Bullough Jr. and colleagues (2002) state, "Recognizing the powerful influence school context plays on beginning teacher development, at the same time, effort has been directed toward forging professional development schools: Better schools create better teachers and better teacher education" (p. 68).

Recommendations

Teacher education programs encounter problematic choices in generating curricula, field placements, clinical practices, and assessment methods to prepare teacher candidates to work with children whose ages range from birth to age 8. Too often they disregard preparing teachers to work with children during the critical early years, especially children from birth to 3 years old. Teachers who work in infant/toddler care programs then do not know how to optimally promote learning and development for this age range. When professional preparation focuses only on older children, candidates and novice teachers often attempt to use those curricula and teaching strategies with infants and toddlers and find such applications unsuccessful. Thus, all early childhood education professional preparation programs must include content and pedagogical knowledge as well as field experiences for teaching groups of infants and toddlers.

Early childhood teacher education programs must give attention to teacher quality. Some advocates promote building a support system for teacher quality for both individuals and the entire profession. Suzanne M. Wilson, Jeffrey J. Rozelle, and Jamie M. Mikeska (2011) recommend that to advance toward national standards, teacher candidates need to be provided with learning opportunities that have emerged from thoughtful research focusing on building a system that is rational and influential.

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See also Clinical Experiences; Early Childhood Education Systems; Early Childhood Teacher Education; Infant Rooms; Toddler Rooms

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TEACHER ROLES IN INQUIRY

The role of early childhood teachers who are committed to guiding inquiry (their own and that of the children they teach) is informed by their beliefs about young children's competencies, rights, and

passions for learning. Moreover, teacher inquirers are by nature hungry to continually learn new ways to engross children in engaging everyday experiences that embody important questions, ideas, and actions and provoke negotiations toward new meanings. There is no curriculum or single method for teachers to follow. Rather, teacher inquirers embrace a reflexive stance and demonstrate mindful skills characterized by "pedagogical thoughtfulness and tact" that "converts incidence into significance" (van Manen, 1991, p. 187). This entry considers (a) how the image of the child is manifested in teachers' inquiry-oriented practice; (b) how teachers' beliefs, values, and goals influence their decision making during children's moments of inquiry; and (c) how the selection of particular tools, strategies, and approaches characterizes the roles of teachers in early childhood environments where inquiry is encouraged.

Image of the Child

A teacher's image of the child is linked to the decisions she makes when or whether to create the space, time, and opportunity for children's inquiry. For example, teachers who view children as needy and dependent are more likely to view themselves as "the holders of knowledge" who are responsible for giving or transmitting knowledge to children. In these situations, teachers tend to plan and implement activities that are prescribed and closed-ended with little consideration given to children's emerging interests, questions, and ideas. This practice is often developmentally appropriate but implemented *for* the child, not *with* the child. These classrooms tend to look the same year after year with occasional variations in activities and the overall classroom environment. For example, when planning activities for the season of fall, themes of harvest are typical as are animals' preparations for hibernation. Yet, what if children's interests were about how to build and design a bridge over a creek for turtles that live alongside their playground? How would the decisions of a teacher committed to guiding children's inquiry differ from seasonal themes and repetitious activities?

When teachers view children as competent with a large capacity for learning *and* guiding their own learning, the teachers' stance shifts toward nurturers of children's questions and ideas and "bridge builders" between what children know and are coming to know. In these contexts, the curriculum is more fluid, responsive, and relevant, becoming a reflecting pool of particular children's interests, at particular times, in particular places. The Reggio Emilia approach to early education (Edwards, Gandini, & Forman, 1993, 1997) has perhaps influenced and provoked a reconceptualization of early childhood teachers' thinking about our image of the child across the past 25 years, in particular. As Loris Malaguzzi, founder of the approach, noted,

Our image of children no longer considers them as isolated and egocentric, does not only see them as engaged in action with objects, does not emphasize only the cognitive aspects, does not belittle feelings or what is not logical and does not consider with ambiguity the role of the reflective domain. Instead our image of the child is rich in potential, strong, powerful, competent and, most of all, connected to adults and children. (1993, p. 10)

Through embracing an image of the child as strong and competent and a belief that children's voices should be included in pedagogical decision making, a teacher's image of self as inquirer also develops. To engage in inquiry with children, then, means that teachers view themselves as lifelong learners who are poised for new ways of coming to know through coconstructing knowledge with children. Thus, an orientation to teaching *as* inquiry and *for* inquiry emerges and guides curricular and pedagogical decision making, "turning classroom experience into teaching expertise" (Weinbaum et al., 2004, p. 1).

Values, Beliefs, and Goals

Children learn in relation to others through their participation in joint, shared activities mediated by a wide range of tools and language. Teachers who engage in inquiry value the contributions of communities of

learners that resituate the individual within collectives in which teachers are also active participants. Teacher inquirers believe that children deserve opportunities for genuine engrossment in authentic experiences that represent their everyday worlds, their cultures, and their basic identities (Hawkins, 1994). Such rich and relevant experiences are nurtured and propelled by what only others can provide as the "child comes alive for the teacher as well as the teacher for the child" (Hawkins, 1994, p. 60). Thus, through joint inquiry teachers reposition themselves and children away from traditional "power-producing binary divides" toward creating shared space and opportunity for inquiry and reconstructions of self as knower and knowledge (Lenz Taguchi, 2009, p. 161).

In such settings, teachers view children as agentic individuals who have the right to make decisions about their learning lives. Inquiring teachers embrace the role of ensuring that the rights of children to participate in the decisions about what and how they learn and with whom they learn are protected and nurtured. As written in *The Unheard Voice of Children* series, in the publication *A Journey Into the Rights of Children*,

Children have the right to be recognised as subjects of individual, legal, civil, and social rights; as both source and constructors of their own experience, and thus active participants in the organisation of their identities, abilities, and autonomy, through relationships and interaction with their peers, with adults, with ideas, with objects and with the real and imaginary events of intercommunicating worlds. (Castagnetti, Rubizzi, & Vecchi, 1995, pp. 67–68)

An emphasis on active participation with others is central to the development of democratic schooling, originally described by John Dewey (1900), as the ethical imperative of education. This belief is evidenced in the roles of many contemporary teachers who guide young children's inquiry, in whose classrooms the "needed information" and "required discipline" develops (Dewey, 1900, p. 70); "intelligence develops as a result of *reflective, strategic*, real-world problem-solving action and experience" (Benson, Harkavy, & Puckett, 2007, p. 25). Ultimately, the

intent is for knowledge (both content and process) to transcend the intimate and meaningful relationships of teachers and children (Hawkins, 1994, pp. 51–56) and move beyond the borders of early childhood classrooms embodied by children prepared to take charge of their learning as they shape a just and engaged society.

Approaches, Strategies, and Tools

Teacher roles in early childhood inquiry are informed by both pedagogical and principled approaches. Contexts for inquiry are relational, include the active participation of teachers and children, and are focused on a topic of inquiry. David Hawkins (1974) has described this relational triangle as “I, Thou, and It” (1974), a reciprocal, transactional orientation that generates opportunities for teachers and children to engage “in worthy interests and pursuits, . . . through a community of subject-matter and engagement” (p. 52). A critical role of the teacher is to determine which subjects are “worth” investigation and how to pursue relevant endeavors. These decisions are dependent upon careful study, informed by pedagogical documentation and engagement in cycles of inquiry reminiscent of action research cycles.

Pedagogical documentation is the purposeful and systematic generation, organization, and analyses of a wide range of classroom records and artifacts that depict multiple perspectives of children’s and teachers’ activities (Tegano & Moran, 2005). Documentation is generated by teachers through careful observations and artifacts recorded through the use of cultural tools (e.g., audio/video recorders, cameras, maps, and computers) that “freeze-frame” experiences and make visible processes of constructing knowledge for further study. The influence of these representations on the classroom culture is significant. They reveal children’s meaning making; demonstrate a respect for children’s work; validate the competencies of children; and communicate a sociohistorical perspective to parents, teachers, and children of the classroom and school culture.

Documentation is much more than a static record, as it serves as a memory and map of earlier thoughts and actions that inform future learning.

For example, documentation is often used during learning activities as a referent. Children who talk about how to build a bridge for their traveling turtles may also be encouraged to draw their plans or construct a bridge out of blocks while the teacher photographs their steps. Now the drawings, the photographs, and the teacher’s observational notes help her determine how to extend and deepen children’s future building. She may decide to bring the drawings and photographs back to the children to help them reference and recall earlier ideas in order to rerepresent them in increasingly sophisticated ways. As children continue to determine how to build their bridge they generate new documentation through their use of “languages” such as drama, painting, and clay constructions, to name a few. Outside of their classrooms, teachers continue to engage in their own cycles of inquiry or action research cycles characterized by studying documentation, reflecting, planning and projecting new curricula (Mills, 2013). Such action research cycles were first utilized by teachers in the United States in the 1950s inspired by the work of social psychologist Kurt Lewin as a tool for teacher inquiry and informed practice.

Action research is always reflective, often collaborative and discursive, and dependent on classroom data that informs planning and action. Hillevi Lenz Taguchi has described the process of seeking knowledge from the “ongoing material-discursive flow” between social and material entities in learning as “intra-active pedagogy” (Roder, 2011, p. 61). Teachers who strive to understand what steps to take to guide children’s inquiry, therefore, are focused on more than children’s individual and social construction of knowledge but also on how the materials and language intertwine and impact children’s meaning making. Thus, when children are engaged in building a bridge for crossing turtles, the decision on what building materials to give children and the time given for conversation and interaction matters. Materials and classroom artifacts are not neutral and influence the interactions that children have with them and with their peers. Thus, the role of a teacher who guides inquiry is to also focus on these “intra-acts” (Lenz Taguchi, 2009) between the discourse and the materials/artifacts that are embedded

in the performative act of bridge building. Such provision for engagement and representation of the process provides teachers new insights on how to continually reimagine the evolving learning environment that includes diverse “languages of learning” and expressions of thought that reflect children’s developing knowledge, skills, and dispositions (Lather, 1991).

Teachers who draw upon key tenets of the Reggio Emilia approach often refer to the learning environment as “the third teacher” (Edwards et al., 1993, p. 148). One role of a teacher inquirer is to design children’s learning environments to help her teach. Such designs for living and learning (Curtis & Carter, 2003) include situating children in spaces with resources that provide them rich experiences related to their interests, ideas, and questions. Thus, rather than asking children to simply read about whether turtles might use bridges to cross over a creek, an inquiry-oriented teacher would also take children outside to plan and build, revisit and rerepresent those experiences, and return with new theories, questions, and insights.

Such intense and deep study requires a wide range of materials, space, and continuity of experience across time. This kind of setting promotes what John Dewey referred to as an “educative experience” because it leads to “further growth, to further experiencing, to fuller, enriched living” (Cuffaro, 1995, p. 69). Here, his emphasis is focused on the belief that when teachers attend to both the child and the environment, this leads to the creation of new *situations* for learning and studying learning. Much like Hawkins’s “I, Thou, It” and Lenz Taguchi’s “intra-pedagogy,” Dewey’s “situations” include the teacher and child with the material, the artifact, the question, the “It.” Thus, one role of a teacher is to build experiential bridges for children’s inquiry, based on their interests and her growing understandings of their learning processes, illuminated by engagement in cycles of inquiry, pedagogical documentation, and active participation in children’s learning.

A central role of the teacher who guides inquiry is to actively participate alongside children as they learn. Bronwyn Davies (2014) describes what she means by a teacher “being there with children” as

engaging in *emergent listening*. The goal of emergent listening is to participate in children’s inquiry while being receptive to the “not-yet-known” (p. 36). Being there to guide children’s inquiry is “a process of joyful yet unsettling reciprocity that is undeniably temporal and forever incomplete” (Schulte, 2013, p. 4). Thus, teacher inquirers learn to anticipate and tolerate the ambiguity and tension of not knowing where children’s inquiry will lead and depend upon recursive reflective practice of stepping back, reflecting, planning, and acting as they scaffold children’s next steps in knowing.

Scaffolding is a metaphor used to refer to effective ways teachers sensitively guide children’s learning within children’s zone of proximal development (ZPD) (Vygotsky, 1978), or the regions in which a “transfer of ability from the shared environment to the individual occurs” (Berk & Winsler, 1995, p. 24). Scaffolding is often associated with the ZPD, yet was first introduced in 1976 to identify aspects of effective tutoring by David Wood, Jerome S. Bruner, and Gail Ross. Scaffolding refers to the many ways teachers (and peers) support and guide less experienced others’ abilities to reach a level of development that they would not, alone, easily achieve. Scaffolding is a bidirectional, social exchange dependent upon the use of mechanical tools (e.g., objects, maps, drawings, and technology) and language, considered the “quintessential tool of the mind” (Bodrova & Leong, 1996, 2007). Mental tools extend the capacity of children’s minds “to allow them to adapt to their environment, thus having a function similar to that of mechanical tools” (Bodrova & Leong, 1996, p. 17). The role of the teacher is to provide nuanced, informed support to assist a child’s knowledge construction that is just beyond his or her current level of understanding but not so far as to confuse or frustrate the child. This positioning is dependent upon teachers utilizing important components of scaffolding that include joint problem solving, warmth, and responsiveness, keeping children learning within their ZPDs, and promoting self-regulation (Berk & Winsler, 1995, pp. 27–30).

It is also critical for the teacher to know when to intervene (and step back) as children learn new skills and knowledge and work more independently.

Returning to the example of building a bridge for crossing turtles, a small group of children may be unsure how to begin their construction. In this case, a teacher's scaffolding might include a series of posing questions, sharing photographs that show the sequence in their classroom block bridge construction, or providing children pieces of wood, toy turtles, and basins of water in the classroom to encourage experimentation. The materials serve as the "go-between" between previous ways of knowing and the development of new knowledge first generated through shared activity and later internalized. Here, the role of the teacher is to ensure that learning takes place through "a process by which individuals transform their understandings of and responsibilities for activities through their own participation," referred to by Barbara Rogoff (1995) as "participatory appropriation" (p. 150). Thus, it is the ultimate goal of teachers of inquiry to create contexts in which children begin to understand what they know, what they need to know, and how to engage in processes of knowledge construction that move them forward into new contexts of learning.

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See also Approaches to Learning; Curiosity; Documentation; Emergent Curriculum; Inquiry; Inquiry-Based Learning; Reggio Emilia Approach; Tools of the Mind

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TEACHER-DIRECTED LEARNING

Teacher-directed learning refers to instruction that is guided by the teacher. The teacher is primarily responsible for creating, planning, and implementing daily lessons and activities for the children to teach specific skills and information. While teacher-directed learning has historically focused mostly on preacademic and academic skills, it can also be used to effectively teach a wide range of skills and concepts including socialization and play.

Philosophy

Teacher-directed learning is based on the philosophy that young children learn more and at a faster rate through planned instruction that is structured and organized with appropriate materials to teach specific content in a clear and systematic way.

Additionally, at young ages, children may not have enough awareness and foundational abilities to independently seek knowledge and thus require guidance from a teacher to learn new skills and concepts. Furthermore, some skills and concepts would be difficult to learn through discovery. Finally, formal instruction led by teachers can prepare young children for later school experiences.

Theory

With a base in behavioral theory, teacher-directed learning emerged from the concept that if teachers act in certain ways, students will respond in certain ways. Teachers conduct learning activities and provide appropriate feedback and consequences for children's responses. Building on that view with a cognitive perspective, teachers not only conduct activities but provide specific opportunities for learning and then help individual children interpret information gained from the experience. Finally, with social learning theory as a guide, teachers also become responsible for developing a community of learners as children are provided with opportunities to interact with others in the environment.

History

Traditionally, teacher-directed learning translated into the teacher giving a lecture while the role of the student is to passively listen to the information being presented. In the early 1900s, with the emergence of the constructivist perspective, child-initiated learning emerged as an alternate and opposing teaching practice, especially for young children. In early childhood education, teacher-directed learning has been linked with achievement of preacademic and academic skills while child-initiated learning has been associated with learning through play. Recently, with a focus on accountability in education (e.g., No Child Left Behind Act), there has been a shift back to teacher-directed learning to better ensure that children meet early learning curriculum standards. While many embrace the teacher-directed versus child-initiated dichotomy of learning and debate the merits of each practice, current best practice calls for a

combination of approaches where both teacher-directed learning and child-initiated learning can occur in early childhood. Indeed, developmentally appropriate practice can be used to guide the balance of the two types of learning in early childhood classrooms to meet the educational needs of young children.

Key Components

Teacher-directed learning includes several key components. These components are as follows:

The Teacher Is the Leader in the Classroom. While the “teacher” generally refers to the lead or primary teacher in the class, when interacting with the child, the teacher can also be an assistant teacher, other professional staff, or any other adult (e.g., parent, volunteer) that has been given information about the child’s or children’s educational plan.

The Teacher Establishes and Enforces Rules in the Classroom. Typically, in early childhood classrooms that utilize teacher-directed learning, the classroom environment is generally more organized, structured, and quiet than those that primarily use child-initiated learning. The teacher usually employs behavioral management techniques to support positive behaviors in the classroom. For instance, the teacher may set up classroom rules and have children practice following those rules. For older children, an effective strategy is for the early childhood teacher to create the class rules with the children by soliciting input about appropriate classroom behavior. The teacher then provides appropriate consequences for the behaviors observed. These consequences can include reinforcement such as praise, stickers, or other rewards for positive behaviors. When possible, consequences should be natural and tied to the behavior. For example, if a child independently says “please” when requesting a toy, efforts should be made to give that toy to the child. If a child refuses to clean up toys, the child is not allowed to participate in the next activity.

The Teacher Determines the Learning Objectives. While the learning objectives in an early childhood

classroom should be aligned with state and school standards and influenced by family priorities as well as child interests, strengths, concerns, and current skill levels, the teacher ultimately decides the curriculum for each lesson every day. There may be learning objectives for the entire class of children, and there may also be individual learning objectives for each child. Regardless, learning objectives are clearly stated in lesson plans and are changed in a systematic way dependent on children’s response to the learning activity. Learning objectives can cover preacademic and academic skills such as shapes, counting, and letter recognition. However, in early childhood, they should also address other developmental domains such as communication (e.g., speaking, understanding instructions), social (e.g., turn taking, following directions, playing), motor (e.g., drawing, ball throwing), and self-help/adaptive skills (e.g., handwashing, coughing in elbow).

The Teacher Structures Learning Tasks and Establishes the Time and Method for Task Completion. After the learning objectives have been defined, the teacher selects learning activities for the children in the classroom. Instruction can be delivered by the teacher in a large group (e.g., circle time with the whole class), in small groups (e.g., centers), or individually in a one-on-one format. Different activities take place throughout the day according to a schedule. Materials for learning activities can include the use of flashcards, worksheets, and file-folder activities as well as books, manipulatives, music, art supplies, games, and toys. The teacher specifically plans how children should interact with the materials and helps facilitate those interactions in order to meet the learning objectives.

The Teacher Actively Maintains Student On-Task Involvement. For the teacher to effectively teach a child, the teacher must explain or demonstrate the target skill or concept explicitly to the child. Furthermore, the teacher should provide multiple examples so that children can learn and generalize the skill or concept. With teacher-directed learning, children are also given a chance to practice or demonstrate their understanding with guidance from the teacher before practicing independently.

The Teacher Presents Clear Expectations for the Child. In each learning activity, instructions are clearly stated so that there is no ambiguity. Larger tasks are broken down into smaller steps for the child to follow. If the teacher is asking questions, the questions are specific, such as “Which one do you want?” “What color is this?” and “Whose turn is it?” Therefore, for each activity, a specific range of appropriate responses is expected.

The Teacher Responds to Students With Feedback. Through clear and direct feedback, teachers guide children to learn new skills and concepts. Teachers provide immediate reinforcement (e.g., praise, rewards) for appropriate responses to learning activities. For incorrect responses, teachers use prompts and cues to help guide children to correct responses. The level of prompting given is determined by the child’s response. If the child is only slightly struggling, the teacher may just give the child a little hint. If the child is having a great deal of difficulty, the teacher may model or physically help the child demonstrate the correct response.

Balancing With Child-Initiated Learning

A teacher-directed learning program can also incorporate components of child-initiated learning in the early childhood classroom. Early childhood educators can use developmentally appropriate practices to determine how to balance and use both teacher-directed and child-initiated learning in the classroom.

To integrate and embed features of teacher-directed learning into child-initiated activities, teachers can set up the environment, use incidental teaching, follow a system of least-to-most hierarchy of prompts, and deliver natural consequences. First, teachers can set up the environment by providing materials related to the learning objective. Second, with incidental teaching, teachers can take advantage of naturally occurring opportunities to practice the target skills or concept. Third, with a least-to-most system of prompting, teachers first allow the child to independently demonstrate a

skill. If the child is having difficulty, the teacher gives a nonintrusive hint before directly helping the child achieve the task. Finally, consequences should be natural in that they should be directly related to the task. For example, if the child asks appropriately for a turn with the toy car, the child should be rewarded by getting a turn to play with the toy car rather than receive a sticker.

Best Uses of Teacher-Directed Learning

The use of teacher-directed learning may be more effective with some individuals than others. Children who may benefit most from teacher-directed learning are those children that do well with structure and organized environments. For young children who are easily overwhelmed and have difficulty exploring and interacting with materials in the classroom, the clear expectations and specific tasks may provide comfort to the child that would then facilitate the child’s learning. Teacher-directed learning is also beneficial when the learning objectives are mostly skill based.

For teachers, being systematic and able to organize and structure learning tasks is a prerequisite for teacher-directed learning. The teacher should be able to plan detailed lessons and provide appropriate feedback to children’s responses. For teachers who may be uncomfortable following children’s lead and quickly turning children’s actions into learning activities, teacher-directed learning may allow the teacher to feel confident in the classroom. Specifically, novice teachers may be more effective in using teacher-directed learning than child-initiated learning when given a prescribed curriculum and learning tasks to implement in the classroom.

Research

Research has shown that early childhood programs with more teacher-directed learning can result in larger cognitive gains early on as well as higher achievement of new skills and concepts. Teacher-directed learning has also been associated with later success in school. There is a lack of

research regarding children's social-emotional outcomes with teacher-directed learning. However, research does indicate that teacher-directed learning can be particularly effective in teaching young children with special needs, including young children living in poverty.

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See also Academics and Academic Assessment in Early Education; Accountability in Early Care and Education; Child-Initiated Learning; Developmentally Appropriate Practice; Direct Instruction

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TEACHING TEAMS

Staffing with teaching teams in center-based early childhood classrooms and large family child care programs reflects the pedagogical challenges of providing developmentally appropriate and individually responsive programming for diverse groups of children and families as well as compliance with licensing regulations for teacher-child ratios. Not all collections of adults working together, however, constitute a teaching team. A teaching team is a stable group of adults who share goals and responsibilities for the children and families they serve.

Composition of Teaching Teams

Membership of a teaching team is typically determined by an administrator based on qualifications and availability of individuals, or teaching teams may be more purposefully constructed. In the latter case, teaching teams may include members whose personal or specialized educational backgrounds complement those of others on the team to increase the collective competence of the team. For example, in a bilingual, immersion, or two-way bilingual classroom, one team member may be a native speaker of English and the other a native speaker of another language; or in an inclusive classroom, one may be a general educator and the other a special educator; or a team member with close ties in the community may be teamed with one from outside the community who brings other strengths. In some cases, staff members may request to work together in a teaching team because of individual affinities.

Although most often the term *teaching team* is applied to groups of adults who serve the same group of children for most or all of a day, external providers of special services such as speech therapy, occupational therapy (OT), and physical therapy (PT) in inclusive classrooms who enjoy stable relationships with the classroom staff over time and where communication with the staff is substantial may be considered members of a teaching team as well. The term *teaching team* may also be applied

to cross-classroom teaching teams who serve children of the same or similar ages. In such teaching teams, responsibilities for curriculum planning may be distributed, joint learning experiences planned, and use of shared materials and spaces negotiated.

Composition and Structure of Teaching Teams

Teaching teams may be composed of lead or head teachers, coteachers, teaching assistants, assistant teachers, or aides. Each of these roles differs in terms of status, power, and responsibility within the team. These distinctions may be based on educational qualifications, specialty areas, years of teaching experience, and years of service in a particular site. The clarity and stability of the roles and responsibilities of each member of a teaching team will vary across early childhood education settings and across individual teaching teams within a setting.

The structure of a teaching team may be either explicitly or implicitly hierarchical or intentionally democratic and collaborative. In hierarchical structures, lead or head teachers may take primary responsibility for curriculum planning, child assessment, family contact, and administrative tasks. Assistants and aides may participate, to varying degrees, in these responsibilities. However, most often, they provide support in the form of facilitating learning activities planned by the teacher, assisting in the preparation and care of materials and the classroom space, record keeping, and providing coverage during break times.

In teaching teams structured as collaborative partnerships, power and responsibility are explicitly shared. Members of coteaching teams work collaboratively in planning and implementing curriculum, child assessment, and family partnerships within their classroom. Marilyn Friend and Lynne Cook describe six ways in which two-person coteaching teams may share responsibility for instruction:

1. *One teach, one observe* and gather observation data
2. *One teach, one assist* by providing unobtrusive assistance
3. *Parallel teaching* in which the group is divided and both lead the same learning activity
4. *Station teaching* where one is responsible for a learning experience with one group of children and the other provides a different learning experience for another group of children
5. *Alternative teaching* where an alternative learning opportunity is provided for a small group of children while the other teacher is responsible for the majority of the group
6. *Team teaching*, the most sophisticated teaching team structure, in which both lead learning experiences together is a style often referred to as “one mind, two bodies”

Successful teaching teams establish and maintain clear and honest communication and develop relationships based on mutual trust and respect. Sufficient time for fulfilling shared responsibilities is required, as are regular times for unhurried discussions of goals, strategies, and outcomes of their work together.

Impact of Teaching Teams

Structuring staff in teaching teams has the potential to positively impact children, program quality, and in-service and preservice educators. Although the potential for impacting children is widely acknowledged, the great diversity in definition, composition, structures, and daily practices of teaching teams has made empirical study difficult. Of the studies that have been conducted, many have focused on coteaching in bilingual and special education programs with uneven findings.

Teaching teams are also considered potentially productive sites for professional development and program improvement. When teaching team members attend professional development experiences together, new knowledge and skills are more likely to be applied in their classrooms. Regular focused reflective conversations within teaching teams about their children, curriculum, teaching strategies, or engagement in formal inquiry about their practice can yield ongoing

and contextually relevant professional development and program improvement.

Teaching teams are also considered fertile ground for preservice professional development. When preservice early childhood teachers are included as members of a teaching team, they take on roles that evolve over time to include greater responsibility. Recent work on structuring capstone clinical placements as coteaching teams shows particular promise. Including preservice teachers in teaching teams both supports learning to teach and prepares them to participate as future members of teaching teams.

Cynthia Paris

See also Classroom Processes; Preservice Teacher Preparation

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TECHNOLOGY AND PLAY

Children need to engage their imaginations to construct or create through play. But meaningful play is not possible without adult guidance and carefully chosen materials, objects, or props. Adult involvement should be much more than playing with and observing children. Teacher and parent roles should provide real-world experiences to set up the motivation, scaffold the play with objects or new ideas, and carefully selected play props that will support meaningful and mature play (Johnson, Sevimli-Celik, & Al-Mansour, 2013).

Children may play with only their imaginations or may extend their imaginations through the uses of natural, found objects such as sticks or human-made objects such as toys, balls, cards, board

games, and increasingly in recent years, interactive media devices, such as cell phones and tablet computers. The concept of “toys” has changed over time as contemporary technologies become available to enhance play opportunities, but Seymour Papert (1996), an early innovator and supporter of home and school technology, has said that “our concern must be to ensure that what is good about play is at least preserved (and hopefully enhanced) as the concept of ‘toy’ inevitably changes” (p. 188).

Challenges of Play With Technologies

The research on the importance of mature play with nontechnology objects is widely accepted to enhance children’s learning and development of self-regulation (control over actions, emotions), social competence with peers and adults, physical fitness, and other cognitive abilities such as problem-solving and creativity (Johnson et al., 2013). In contrast, there are fewer consensuses about the research on play with media, yet the numbers of young children with access to technologies is rapidly increasing. *Zero to Eight: Children’s Media Use in America*, a nationwide survey of parents by Common Sense Media (2013), reported that 38% of children under age 2 have used a mobile device for media (compared with 10% in 2011). Seventy-two percent of children age 8 and under have used a mobile device for some type of media activity such as playing games, watching videos, or using apps, up from 38% in 2011. The Cooney Center’s report found that 67% of 8-year-old children in their study use the Internet on a daily basis (Gutnick, Robb, Takeuchi, & Kotler, 2011).

Some experts, teachers, parents, and families challenge the uses of technologies for infants, toddlers, and preschool children. They point to the possible harmful effects of excessive uses of electronic media on young children’s development, that is, lack of impulse control, obesity due to inactivity, and attention-deficit/hyperactivity disorder. Some play advocates, parents, researchers, and teachers view society as a “media saturated, fast paced world” and support efforts to “take back” childhood so they can engage in good old-fashioned make-believe playtime during critical periods of

language, social skills, and self-regulation development (Singer, Golinkoff, & Hirsh-Pasek, 2006). Without proper adult guidance on types and amount of use, there is evidence that the use of computers, mobile devices, and TV can replace young children's authentic play with objects, interacting other children, and time outdoors in active play (Levin, 2013).

Benefits of Play With Technologies

All "screen time" does not have the same impact on play; computer use and TV viewing do not impact learning in the same ways. Mitchell Resnick (2006) suggests that computers and their uses should be considered more like paint brushes to create, imagine, and play than like TVs for passive viewing. Multiple research studies do report the benefits of carefully selected developmentally appropriate and interactive technology tools and materials to enhance children's learning and development in language skills, enhanced dramatic play, understanding of spatial perception, peer interactions, and collaboration—those same qualities as playing with nontechnology toys (Hartle & Berson, 2012; Yelland, Hill, & Mulhearn, 2004).

The potential of technologies to support play requires making informed decisions about appropriate scaffolding with all high- and low-technology tools. Lack of preparation by parents and teachers of young children on strategies to effectively and appropriately use technologies to support play and learning is a challenge (Barron et al., 2011), but guidelines, online references, and professional development are available.

NAEYC and the Fred Rogers Center for Early Learning and Children's Media at Saint Vincent College (2012) completed a revised position paper on technology for young children: *Technology and Interactive Media as Tools in Early Childhood Programs Serving Children From Birth Through Age 8*. The key messages in this position statement support the research that when used intentionally and appropriately with limitations to time spent and when carefully chosen related to the child's development, technology and interactive media are effective tools to support learning and development.

Other resources provide clarifications regarding ages when children are most vulnerable and what families can do to play a more active part in children's uses and time balanced with active play and effective technology uses (Fred Rogers Center for Early Learning and Children's Media at Saint Vincent College, 2012; Guernsey, 2012; Simon & Nemeth, 2012).

Technology and Digital Media in the Early Years: Tools for Teaching and Learning (Donahue, 2014) presents distinctions about specific uses of technologies and explains how children can use media and hands-on materials to do what they do best—explore and discover through play, such as by engaging in virtual field trips, which enrich children's experiential base; and playing open-ended video games, which enrich vocabulary and mathematical problem-solving skills. Teachers and parents can further educate themselves by using the *Checklist for Identifying Exemplary Uses of Technology and Interactive Media for Early Learning: The Pennsylvania Digital Media Literacy Project* to evaluate technology choices that will enhance play (Robb et al., 2014).

Even the youngest children are engaged in the contemporary "participatory" culture through technologies uses and the Internet (Jenkins, 2006). Young children are capable of researching information on the Internet using multiple texts, both virtual and concrete types of play objects, and then repurposing or representing or sharing their creative ideas in "one hundred languages" (Edwards, Gandini, & Forman, 1998), or modes of expression. In the rapidly changing digital world, children in contemporary classrooms and homes engage in transmedia play experiences (Herr-Stephenson, Alper, & Reilly, 2013). Children explore across mediums and remix settings, plot elements, and characters from videos, toys, and online games using any combination of digital, verbal, musical, written, drawn, or painted texts. Examples include taking and using digital photos to research a topic to make props for their play, using software to create books, or making movies of their play so they can revisit and reflect upon the scenes and hence broaden their language and knowledge base to share new stories (Hartle & Jaruszewicz, 2009). High-quality practices do not supplant but

rather supplement and enhance play and learning. One early learning and development center director who follows these best practices reports that children in his center are engaged with all mediums in their play; the technology is there and available, but the technology is an invisible, seamless support to authentic play and learning (Jackson, 2011), which is as it should be.

Conclusion

Since technologies are a central part of society and may be even more so in the future, researchers, teachers, and families will need to continually scrutinize relevant research on how well, when, where, and why to use technology with young children (pros and cons). To support child learning and development through play, careful consideration should be given to the selection of emerging digital literacies considering the child's development level and interest, the content of the digital media, and the context of the play.

Lynn Hartle

See also Play and Early Childhood Education; Preparing Early Childhood Teachers to Implement Digital Media; Technology in Early Childhood Education

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TECHNOLOGY IN EARLY CHILDHOOD EDUCATION

In 2012, the National Association for the Education of Young Children (NAEYC) and the Fred Rogers Center for Early Learning and Children's Media at Saint Vincent College issued a

joint position statement titled *Technology and Interactive Media as Tools in Early Childhood Programs Serving Children From Birth Through Age 8*. The statement is grounded in the developmentally appropriate practice framework (Copple & Bredekamp, 2009) and defines effective, appropriate, and intentional use of technology and media with young children. The principles and guidelines provide guidance to the field and for early childhood educators and caregivers on the selection, use, integration, and evaluation of technology tools for learning in early childhood settings.

Key principles include the following:

- When used intentionally and appropriately, technology and interactive media are effective tools to support learning and development.
- Intentional use requires early childhood teachers and administrators to have information and resources regarding the nature of these tools and the implications of their use with children.
- Limitations on the use of technology and media are important.
- Special considerations must be given to the use of technology with infants and toddlers.
- Attention to digital citizenship and equitable access is essential. (NAEYC & Fred Rogers Center, 2012)

Since early 2012, when the position statement was published, a number of leading early childhood organizations released their own reports, policy briefs, recommendations, and guidelines for best practice. In 2014, the RAND Corporation published the report *Using Early Childhood Education to Bridge the Digital Divide*, as well as a series of follow-up reports that explored ways for early childhood education and educators to bridge the digital divide, redefine developmentally appropriate use, identify goals for technology use, describe an adequate technology infrastructure, provide training and professional development, and improve family engagement.

Also in 2014, ZERO TO THREE issued a report, *Screen Sense: Setting the Record Straight*. The report provides an evidence-based review of what we know about the effect of screen media on

young children's development and learning and research-based guidelines for screen use for children under 3 years old. The report and accompanying materials help educators and caregivers make informed choices about the appropriate use of technology and digital media in the early years, by addressing the often-conflicting advice about screen use by children birth to 3.

Early in 2015, the HighScope Educational Research Foundation released a position statement on young children and technology, *Using Technology Appropriately in the Preschool Classroom*, based on the principles and practices of the HighScope curriculum and grounded in a review of the research on children's use of technology. The statement provides guidance for early childhood educators as they make programmatic decisions and identifies guidelines for evaluating the use of technology by taking into account what we know from the current research.

Taken together, these diverse perspectives from leading early childhood organizations provide a strong foundation for early childhood educators interested in integrating technology in the classroom. They begin to identify and describe what we know from research on children's media and early learning and help situate the conversation about technology use with young children in the broader context of new and emerging early childhood practices with technology and digital media.

Technology in Early Childhood Education: What Matters

A synthesis of the position statements, reports, research reviews, and recommendations from NAEYC, the Fred Rogers Center, RAND Corporation, ZERO TO THREE, and HighScope identifies a set of foundational elements necessary for successful technology integration with young children. For early childhood educators and the field, the takeaways about what "matters most" include the following.

Addressing Concerns Matters

The concerns that have been raised by parents and educators about technology use and young

children need to be acknowledged and thoughtfully addressed to reduce the potential for negative impacts on healthy growth, development, and learning. Common concerns about young children and technology include the amount and kinds of screen time; the amount of passive media use; exposure to inappropriate content; commercial messages that target children; the displacement or replacement of developmentally essential materials, activities, and experiences; a decrease of imaginative and open-ended play, active learning, hands-on learning, and creativity; social isolation and a negative impact on social and emotional development; increased digital distractions leading to interrupted adult-child relationships; less outdoor time; decreased physical activity and increased childhood obesity; sleep disruptions; the impact of "always on" technology and background TV; and other health concerns. The field has also acknowledged the need to address access and equity issues so that new digital devices become tools for all children and families that can help close the achievement gap and narrow the digital divide.

Early childhood educators need to be mindful of these concerns and the potential for negative impacts even as they promote positive experiences with technology and media through the appropriate and intentional selection, use, integration, and evaluation of technology tools for learning in the classroom.

Early Childhood Education "Essentials" Matter

Educators need to be sure that technology and media do not displace or replace active playtime outdoors; hands-on activities with real materials and loose parts; authentic and deep engagement; and creative expression through art, music, and movement. During the early childhood years, young children need interactions and relationships with caring adults and other children. They need a balance of solitary and shared experiences. Early childhood should be a time of creativity, curiosity, inquiry, and wonder. Open-ended exploration; unstructured, active, imaginative play; and time outdoors and in nature are essential. Appropriate and intentional selection and use of technology

should enhance and extend essential classroom materials and experiences, offer another tool for learning, and empower young children as learners.

Families Matter

Early childhood educators have long understood how much families matter to the healthy growth, development, and learning of young children. In the digital age, how families access and use media in the home also matters. How children use media at home reflects their interests and needs and is strongly influenced by family needs, backgrounds, languages, cultures, communities, attitudes toward technology, access to technology and a broadband connection, and the media habits of the adults in the home. Digital age educators have an opportunity to help families develop healthy media habits and strive for positive family media ecology in the home. Educators can also use technology tools to improve communications, strengthen home-school connections, and enhance family engagement.

Relationships Matter

In early childhood, the interactions with others that lead to relationships with peers and caring adults are central to healthy development and learning. Educators understand that young children learn best in the context of interactions and relationships with tuned-in, responsive, and caring adults. Technology tools should strengthen a child's relationships with caring adults and peers, not disrupt or interrupt them. Appropriate and intentional use of technology tools should support children's development and learning, strengthen relationships, encourage prosocial behaviors, and promote social and emotional development.

Social and Emotional Development Matter

A whole-child approach to early childhood education emphasizes social and emotional development along with the domains of cognitive, language, and physical development. Classroom use of technology often focuses on curriculum areas such as early literacy, science, and math, but social and emotional skills such as persistence, self-control,

curiosity, grit, and self-confidence are also related to academic and personal success. Educators who consider the whole child can be mindful and intentional about how technology tools support all developmental domains and can look for technology tools and content that help build executive function skills and develop the social and emotional skills children will need for living and learning in the 21st century.

Joint Engagement With Media Matters

Adult-child interactions are key to language learning and learning with media. When adults and children share an experience with a book or with media, the learning opportunities are enhanced. Joint engagement also refers to opportunities for peer-to-peer learning when more than one child uses a computer or tablet. Educators should look for technology tools and content that invites and encourages joint engagement.

The Individual Child Matters

Educators need to choose the right technology tools, content, and experiences for each child's needs, abilities, interests, and developmental stage. These are decisions educators know how to make and are already making many times a day in their classrooms with regard to traditional materials such as blocks, small manipulatives, and books. Selecting and using technology tools is no different. Educators who can connect their understanding of child development theory and the principles of developmentally appropriate practice with knowledge of the individual child can match the right technology tool and content to the child to achieve goals for learning and development.

Content Matters

The quality of content on the screen also matters in early childhood settings. Quality digital content actively engages and empowers young children; combines child control with guided exploration; encourages interactions and offers opportunities for joint engagement; extends and enhances essential experiences and learning opportunities; connects

on-screen and off-screen experiences with real materials in the classroom; and allows the child to save, revisit, revise, print, and share his or her work. As with other appropriate materials offered to children, digital content and screen experiences should be meaningful, hands on, culturally appropriate, and inclusive; should include appropriate images and language; and should accommodate children of different abilities and needs. With quality content, “what children watch and do” on screens is more important than “how much” or “how long” they watch.

Context Matters

An established principle of early childhood education is that children learn best in active environments when they are engaged in meaningful, interactive, and social contexts, and the same considerations need to inform instructional practices and technology use. Educators need to be aware of, and intentional about, the context—who, what, when, where, how, and why—of technology use in the classroom to be sure it complements and builds on children’s natural play patterns and interactions.

Creating Media Matters

In the 21st century, it will not be enough to know how to use technology to consume media. Young children are capable of creating their own messages and expressing themselves through media when they have control and the opportunity to progress from consuming media to meaning making with media to creating media. Early childhood educators who gain digital media literacy and fluency can progress from media consumers to creators who are better able to guide young children along this continuum toward media creation.

Technology Integration Matters

The goal of technology integration in classrooms and early childhood settings is not to displace or replace essential activities and experiences offered within a whole-child approach. When technology is integrated appropriately and intentionally, the goal is to enhance and expand essential activities and

experiences and to provide universal access to powerful tools for learning in new ways and for all children.

Applying Guidance on Technology in Early Childhood Education

Understand What We Already Know

The field of early childhood education already has a solid foundation upon which to base decisions about and use of technology and digital media in the education of young children. The first step toward appropriate and intentional practice begins by applying what we know about child development, early learning, developmentally appropriate practices, cultural and linguistic diversity, and the influence of family and community. With this foundational knowledge educators are equipped to make mindful choices about technology use and integration in the classroom.

Learn About the Guidelines, Recommendations, and Best Practices

Valuable guidance is available to the field. The joint position statement from NAEYC and Fred Rogers Center, reports on policy from the RAND Corporation, recommendations from leading early childhood organizations such as ZERO TO THREE and HighScope, and more than 40 years of children’s media research provide principles and guidelines to help educators select, use, integrate, and evaluate technology effectively, appropriately, and intentionally. Connected educators also know how to communicate and collaborate with other educators in online communities and on social media to share stories, exchange resources, and identify best practices.

Know What Matters

What we know matters most for healthy growth, development, and learning in the early years informs what matters most when integrating technology. For young children and technology, that includes acknowledging concerns about the effects of technology and understanding the

importance of essential early childhood experiences, families, relationships, joint engagement with media, the whole child, and the individual child. The quality of the content, the context for media use, the opportunity for young children to create media, not just consume it, technology integration, and digital media literacy are also at the heart of intentional and appropriate use of technology with young children.

Strive for Digital Media Literacy and Fluency

In the 21st century, young children need early childhood educators who have the confidence and commitment to improve their own skills and become digitally literate and fluent. These digital age educators know how to intentionally and appropriately select, use, integrate, and evaluate technology for the classroom and for individual children. This means having a positive disposition toward technology tools for learning and gaining sufficient knowledge, experiences, and competencies with technology tools and media to support and guide 21st-century learners and their families.

Become Media Mentors

Young children and their families need information, resources, support, and encouragement from enthusiastic digital tour guides, effective role models, and media mentors. Early childhood educators in formal and informal settings have the opportunity to model appropriate and healthy use of technology and digital media to the young children who watch how, when, and why the important adults in their lives use technology and media. Educators can become media mentors who support families by becoming trusted sources for resources and recommendations on technology and interactive media, advocating for a healthy media diet at home, and helping families become media mentors to their own children at home.

Use Technology as a Tool

Early childhood educators can turn the principles from the NAEYC and Fred Rogers Center position statement into action steps, such as

- using technology and digital media intentionally and appropriately as tools to support learning and development of all children and as tools to enhance family engagement;
- learning more about the nature of technology and digital media tools to understand the implications of their use with children;
- placing limitations on the use of technology and media in the classroom by applying the same criteria used for the reading area, block corner, or dramatic play area;
- giving careful consideration to the use of technology with infants and toddlers; and
- paying careful attention to digital citizenship and equitable access for all young children and families.

To realize the potential of technology and digital media as tools for learning, early childhood educators need to take individual and collective steps toward digital media literacy. This is not a solitary journey. The pathways toward digital media literacy, appropriate and intentional practice, and effective technology integration are shared with all the other early childhood educators, teacher educators, professional development providers and trainers, administrators, curriculum coordinators, families, caregivers, and media developers who are also scrambling to catch up and keep up in the 21st century. Many of the adults who work with and on behalf of young children today were not born into the digital age, but all of the children in early childhood programs are growing up in a digital world with new tools that create new opportunities for learning if they have mindful media mentors to guide the way.

Chip Donohue

See also Developmentally Appropriate Practice; Intentional Teaching; Media Influences on Play; Preparing Early Childhood Teachers to Implement Digital Media; School of the 21st Century (21C); Technology and Play

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Control and Prevention (CDC). In addition, the CDC reported that 305,388 babies were born to teenagers in 2012. This equates to a live birth rate of 29.4 per 1,000 women in this age group, representing a record low for U.S. teens, and a drop of 6% from 2011. Issues related to teen pregnancy usually fall into five categories: (1) emotional, (2) social, (3) educational, (4) financial, and (5) health related.

Emotional Issues

Since many teenage pregnancies are unplanned, the first challenge faced by teen parents involves the decision about how to deal with the pregnancy. Most schools offer resources to help teenage parents make informed choices about how they will address this issue. Depression, frustration, fear, and anxiety are some of the emotions that males and females experience when facing an unplanned pregnancy. According to a research article published in the *Journal of Pediatric and Adolescent Gynecology* in 2010, over 25% of pregnant teens will experience some type of depression. Depression is impacted by a number of factors, including whether the teen mom is still involved with the child's father, and whether her or her partner's families are supportive with whatever decisions are made concerning the pregnancy.

Social Issues

Teenage pregnancy creates social issues as well. Teens that are pregnant have fewer opportunities to date, participate in school activities, and just hang out with friends. This becomes an even bigger concern once the child is born because now the teen parents have to consider the financial and emotional needs of their child. In addition, the stress of having an unplanned pregnancy can be challenging to any relationship, and therefore, some teenage mothers feel alone and isolated from their friends. Opportunities for social activities are also limited as new parents face challenges supporting the child and finding appropriate child care while they are working or going to school.

TEEN PREGNANCY AND PARENTING

Teen pregnancy rates in the United States have fallen in recent years, but the country still has a higher rate than any other developed country, according to data by the Centers for Disease

Educational Issues

Statistics from the National Campaign to Prevent Teen and Unplanned Pregnancy show that 40% of young women who have babies before they are age 18 ultimately drop out of high school. This results in a mother having less education and a lower paying job, and it diminishes the prospects for future earnings. While schools no longer require girls to drop out when they become pregnant, it still creates a burden on teen moms who try to remain in school, since they have the added responsibility of taking care of a child. Fortunately, many schools now have programs that support teenage parents, such as in-school child care, parenting classes, and counseling to help teenage parents cope with their new responsibilities. In addition, there are programs such as YouthBuild that are designed to help students who drop out of school. YouthBuild is a national organization designed for low-income students ages 16 to 24, which simultaneously addresses core issues facing low-income communities: housing, education, employment, crime prevention, and leadership development. In YouthBuild programs, low-income young people work toward passing a high school equivalency exam, learn job skills, and serve their communities by building affordable housing.

Financial Issues

According to the March of Dimes, over 50% of children born to teenage mothers live in poverty, and 75% of unmarried mothers will access welfare/public assistance by the time their child is age 5. Because they lack the education or experience to get a job that will support them, teen parents often struggle financially. They may depend on family members or government programs to help support their child financially. Any expendable income a teen parent may have had in the past will likely go toward caring for her child as opposed to entertainment, fun, or buying new clothes. Additional financial concerns include paying for the delivery of the child, finding affordable housing, and paying for necessities such as diapers, food, and medication. There are a few government programs available to help with these issues but most do not cover all the costs.

Health Issues

Teenagers are at risk for complications during pregnancy such as premature birth, low birth weight, and sudden infant death syndrome (SIDS). Babies born early or small are also at risk for continuing health problems after birth, causing additional stress. There are additional life choices that can adversely impact a teenage mother, such as the use of alcohol or drugs and lack of prenatal care. Any one of these factors can result in premature birth, low birth weight, or even a more serious complication such as fetal alcohol syndrome (FAS), a condition in which a child is born addicted to alcohol. Babies with FAS are born with physical and mental defects that develop in the fetus as a result of mothers' high levels of alcohol consumption during pregnancy.

Strategies

First of all, it is very important that a teenage mother access health care as soon as possible. Laws are now in effect in some states protecting underage mothers from having to inform immediate family members about their condition. However, often a teenage parent's family can be a strong support system. State, county, and local departments of public health offer free services, which include pregnancy tests, prenatal consultations, and informational booklets about teen parenting. Other helpful resources include the following:

- Organizations designed to support teen parents. For example, Planned Parenthood is a national organization with many resources for pregnant teenagers. In addition, this organization offers counseling services for pregnant teens, providing advice on pregnancy termination, adoption, and parenting. Planned Parenthood operates more than 800 health care centers across the United States, making it the nation's number one sexual and reproductive health care provider. Research indicates that 23%, almost one-fourth, of Planned Parenthood clients in the United States are under age 20.
- Many schools have special programs for teen parents that include face-to-face support groups

as well as an in-school child care facility. If the local school does not have such a program, there are often options to transfer to one that does.

- The Generations Program gives teenage parents and their children access to health care. It serves parents 18 and younger, or 19 and younger with special needs children. This program is designed to partner with community-based services for teenage parents and provides services such as immunizations, parenting education, and physical checkups for parents and their children.

- The Internet also provides options for teenage parents. There are many websites, forums, and online communities that are devoted to the issue of teen pregnancy. These sites are places where pregnant teens can go to learn more about their condition and to interact with others in a similar situation. YoungMommies.com is one such site, designed to offer support and to provide information to pregnant teens.

- There are government programs designed for low-income mothers as well, such as the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), a nutrition program for low-income families. Although federal grants fund WIC, state and local agencies administer the program at the local level. WIC funds provide assistance for buying nutritious foods, educational resources, counseling, and referrals to other social service agencies designed for low-income families.

- For financial assistance, Temporary Assistance for Needy Families (TANF) is a federally funded financial assistance program for low-income families with dependent children and for pregnant women in their last 3 months of pregnancy. This program, which is administered by states, provides temporary financial assistance while also helping recipients find jobs that will allow them to support themselves.

Clarissa Willis

See also Parenting Effects on Child Development; Parenting Support and Education; Parents as Teachers; Prevention Science and Early Education; Transition to Parenthood

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TEMPERAMENT

The idea of temperament resonates with parents of infants and very young children who observe how their children respond to new encounters in

their world. Defined as an individual behavior style that is both biologically and environmentally determined, *temperament* is most often understood through the three types first identified in the research of Alexander Thomas, Stella Chess, and Herbert Birch in 1970 and maintained throughout their research into the 1990s:

- *Easy* children are positive in mood, adaptable, and moderate in their reactions, enjoy regularity in feeding, sleeping, and bodily functions, and have a positive approach to new situations.
- *Difficult* children are negative in mood, often irritable, slow to adapt to change, intense in their reactions, and often irregular in bodily functions, withdraw from new situations, and cry frequently.
- *Slow-to-warm-up* children are slightly negative in mood, initially withdrawing from new stimuli, and have a lower activity level and low intensity of reaction.

Children's temperament is a key area of their social-emotional development and is an important component of their personality that is particularly apparent in infancy and toddlerhood, before children learn to adjust their responses to new and familiar situations and develop ways to verbally communicate how they feel. Temperament types persist, however, as children grow through the preschool and elementary years. Understanding children's temperament types allows families and teachers to support socioemotional and personality development.

Development of the Temperament Model

Chess and Thomas began their research in 1956 with the hypothesis, new at the time, that personality is developed by the interaction of temperament and environment. They conducted a long-term study of 141 children, beginning in infancy and continuing through age 10. The researchers describe the children in the study as being from middle-class families and working-class Puerto Rican families, children with mental disabilities, infants born prematurely, and children with effects of the childhood disease rubella.

In their study of infants and toddlers, the researchers identified nine qualities, or characteristics, that could be clustered into the three basic temperament types, *easy*, *difficult*, and *slow-to-warm-up*, by scoring each of the characteristics on a 3-point scale. Donna Wittmer and other researchers have found similar results in their studies of infant temperament based on aspects of emotionality, activity, and sociability. Thomas, Chess, and Birch also determined that temperament persists as children grow, but is not inflexible in that changes in type do occur. As children develop past infancy, temperament types generally remain the same but are sometimes transformed by environment and experiences.

The nine qualities of temperament are the following:

1. *Activity Level*: the level and extent of motor activity
2. *Rhythmicity*, or degree of regularity, of functions such as eating, elimination, and the cycle of sleeping and wakefulness
3. *Approach/Withdrawal*: the response to a new object or person, in terms of whether the child accepts the new experience or withdraws from it
4. *Adaptability* of behavior to changes in the environment
5. *Threshold of Responsiveness*, or sensitivity, to stimuli
6. *Intensity*, or energy level, of responses
7. *Quality of Mood*: the child's general mood or "disposition," whether cheerful or given to crying, pleasant or cranky, friendly or unfriendly
8. *Distractibility*: the degree of the child's distractibility from what he is doing
9. *Attention Span and Persistence*: the span of the child's attention and his persistence in an activity (Thomas, Chess, & Birch, 1970)

These nine qualities differ for children according to their temperament type, as described by Thomas, Chess, and Birch (1970). Easy children, for example, exhibit a positive approach to people or objects, are

very adaptable in new situations, and experience a low or mild intensity of reaction. Their quality of mood can be described as positive.

In contrast, difficult children demonstrate withdrawal from new people or objects, they adapt slowly to new situations, and their reactions are intense. Their quality of mood is generally negative.

Slow-to-warm-up children, as their temperament type suggests, initially demonstrate withdrawal from new people or objects before being comfortable with them. Like difficult children, they adapt slowly to new situations, but the intensity of their reactions is mild, more similar to that of easy children. The quality of mood among these children is slightly negative.

From their long-term study of temperament types, Thomas, Chess, and Birch (1970) identified what the nine qualities of temperament may look like in children from infancy through age 10. They have provided examples of *activity level* and *adaptability* at six age levels, from 2 months to 10 years. The behaviors of children at 2 months, 2 years, and 5 years serve to illustrate high and low levels of activity. A 2-month-old with a high activity level may wiggle during diaper changes and move about during sleep. With a low activity level, the child is likely to lie quietly during diaper changes and sleep without moving. A highly active 2-year-old engages in active play and may climb on furniture during the day time and out of bed at naptime or at night. A low-activity 2-year-old may prefer quiet play with manipulative toys such as small blocks or puzzles and is likely to stay in bed during naptime. Highly active 5-year-olds are on the move, often running and not staying in one place for long. A 5-year-old with a low activity level is content to sit quietly during long car rides and will usually be able to sit still at the table during mealtimes at home. Teachers can recognize similar high- and low-activity behaviors among the children in their classrooms.

Implications for Practitioners and Parents

Chess, Thomas, and Birch wrote to inform families as well as researchers and practitioners. Their book, *Your Child Is a Person*, first published in 1965, was geared toward parents and communicates the

importance of observing, recognizing, and responding to the individuality of each child. Parenting and caregiving styles in relation to children's temperament have implications for children later in home and school. Appropriate support for children's temperament and the ways in which they respond to the world contributes to their social-emotional development.

The concept of goodness of fit describes the interaction between children and adults in terms of a match or mismatch in expectations and personalities. An outgoing, sociable, and energetic adult may not understand the discomfort of the *slow-to-warm-up* child to a new social experience or the intense negative reactions of a *difficult* child.

Lacking the responsive playfulness of the easy child, unless there is understanding on the part of families, the difficult child may not receive the warmth, positive attention, and nurturing that an infant needs, and may be punished by frustrated and bewildered parents. Parents of slow-to-warm-up children will need to adapt the family's schedules and activities to allow them time to adjust to new people and situations. A possible complication for easy children as they grow is the possibility that, having fit so easily in their families' expectations and standards, encountering differences in settings away from home may be a challenge.

T. Berry Brazelton offers useful advice and guidance for children in the first 3 years of life in the 2006 edition of his book *Touchpoints: Your Child's Emotional and Behavioral Development—Birth to Age 3*. Brazelton's recommendation is for parents to use Chess and Thomas's nine qualities to assess their child's temperament in order to know what is normal for their child. Parents are then able to support the child in new and unfamiliar situations. They will be able to determine if something may be happening that is unusually stimulating or frightening, causing differences in their usual behaviors. Also valuable is the awareness that each child in the family is likely to have a different temperament type. Another application of temperament, according to Brazelton, is to identify some of the reasons for children's wakefulness at night. A widespread concern of parents of infants and toddlers, wakefulness may be a response to any of three temperament types.

Further evidence of the sturdiness of the Chess and Thomas model of temperament is a 1990 video by David Donnenfield, J. Ronald Lally, Peter Mangione, and Sheila Signer called *Flexible, Fearful or Feisty: The Temperaments of Infants and Young Children*, whose title is a translation of *easy, slow-to-warm-up, and difficult*. The video is now widely accessible via YouTube and is currently used in early childhood and child development courses and in professional development for those who work with infants and children.

Appropriate responses of parents and caregivers sensitive to temperament types positively affect the social-emotional development of infants, toddlers, and young children as they grow. Similarly, an understanding of each child's temperament type is critical in classroom settings where interactions with teachers and peers will ideally benefit from "goodness of fit."

Possible Limitations in Application

Oversimplification by parents or practitioners may lead to attempts to label children or assign them to a particular type. Not all children fall exclusively and clearly into one of the three types. A consideration of the nine qualities is important in observing and understanding the temperaments of children. In so doing, adults may notice children at times exhibiting responses characteristic of different temperament types in certain day-to-day contexts or even across time.

Questions for Further Consideration

The concept of varying temperaments has a number of connections to other theories on child development. For instance, the extent to which adults support children of varying temperaments in their encounters with the world becomes a factor in Erik Erikson's stage of trust versus mistrust and, to some extent, in later stages.

In their 1970 research report, Chess, Thomas, and Birch describe some diversity among the children in their study and briefly address the topic of temperament and culture in their 1996 book, *Temperament: Theory and Practice*. However, the question of cultural validity can now be investigated

and is more extensively considered. A systematic, in-depth investigation of the diversity of children and families in the United States adds to our understanding of children's temperament and the development of personality. As an example, the challenge for easy children confronting expectations at school that are different from home may occur among children of the dominant culture but is likely to happen more frequently among those from other home cultures, languages, and ethnicities. Additionally, research to validate the findings will provide revised descriptors of the temperament qualities that reflect the contemporary experiences of infants and children and make the model more meaningful to current audiences.

The temperament type model continues to be a robust and enduring part of the knowledge base, valuable to families, practitioners, and researchers. With strongly anecdotal support, there are yet questions about further applications in the global world of babies and young children and their families and in the changing and complex environments in which children are born and in which they grow in their encounters in their worlds.

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See also Emotional Development; Self-Regulation; Temperament and Development

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TEMPERAMENT AND DEVELOPMENT

According to Mary Rothbart's psychobiological model, *temperament* refers to individual differences in reactivity and self-regulation as expressed through affect, activity, and attention. These differences emerge, with maturation, heredity, and experience, interacting in a manner that results in a unique profile of constitutionally based characteristics.

Reactivity refers to individual response patterns to a broad range of stimuli, and with novel stimuli; for instance, avoidance and approach would be considered reactive tendencies. Reactivity-related constructs are often measured in terms of latency, duration, and intensity parameters of motor, affective, and attentional responses. The amount of time it takes for an infant to smile when playing peek-a-boo is an example of a latency measure of reactivity. In the case of emotional reactivity, behavioral observations often prove to be useful measures. For example, as fear is generally associated with manifestations of distress, freezing, and behavioral inhibition (i.e., latency to engage or immediate retreat from stimuli) and positive affectivity with a rapid behavioral approach toward potentially rewarding stimuli, these behavioral markers can serve as indicators of the two temperament dimensions, respectively.

Self-regulation refers to functions that modulate reactivity. Effortful control, enabling voluntary modification of a reactive response, represents an example of a regulatory temperament construct. Linked with conscientiousness in adulthood, effortful control is critical to development in multiple areas, as diverse as school readiness and theory of mind. Similarly, orienting is considered to be an attention-based regulatory domain of temperament, as orienting can be utilized to modulate reactivity as early as the first year of life (e.g., orienting away from a distressing stimulus). This early appearing self-regulation is captured by parent report via

multiple scales with the Infant Behavior Questionnaire (IBQ-R), developed by Maria Gartstein and Rothbart, wherein these cluster into the regulatory capacity/orienting overarching temperament factors.

Conceptualization and measurement of temperament are largely dependent on the theory being applied. In the case of the psychobiological model, measures include questionnaires for caregivers with items addressing the frequency of specific child behaviors anchored in typical daily activity contexts, as well as laboratory-based observations, wherein episodes designed to elicit specific emotional reactions or regulation efforts are administered in a structured manner. Naturalistic observations have been utilized as well, although not as extensively, and there are also many examples of physiological indices (e.g., electroencephalogram) being utilized to measure aspects of temperament. Although all of these approaches have their own strengths and weaknesses, parent-report measures have the advantage of capturing aspects of temperament that are not readily observable in episodic or laboratory settings and are comparatively simple and inexpensive to administer.

The Structure of Temperament

The psychobiological model of temperament is constructed as a hierarchical system, insofar as there are overarching factors of surgency/extraversion, negative emotionality, and orienting capacity/effortful control, which are composed of more fine-grained dimensions. Surgency is defined by approach behavior and positive affective states, whereas negative emotionality is characterized by behavioral inhibition (hesitation to approach new/unfamiliar stimuli) and a tendency to react with distress, and orienting capacity/effortful control represent regulatory constructs, moderating the influence of other reactive temperament components. These overarching factors remain relatively stable, in that although the more fine-grained dimensions change with development (e.g., inhibitory control is introduced at the toddler level, as infants do not yet present with this capacity to inhibit a prepotent response in producing a novel,

more adaptive one), the broad factors have been shown to remain relatively stable.

Negative Emotionality

Negative emotionality is often considered to be the temperamental equivalent of the neuroticism construct discussed in adult personality literature. Negative emotionality represents tendencies to experience and display fear, anger, sadness, and physical discomfort. In infancy, this factor is identified by expressions of fear, frustration or irritability, sadness, and falling reactivity (defined as the infants' ability to lower his or her own level of distress), which is associated with a negative loading, reflecting a negative associating with distress dimensions, indicative of a regulatory function. Later in childhood, negative emotionality is further defined by shyness, resistance to control, soothability, and discomfort. Resistance to control captures an individual's tendency to reject imposed rules or regulations, and discomfort in this context refers to the child's negative affective response to various sensory information (e.g., brightness of colors or lights, volume of sounds). Soothability (ability to calm with parental interventions), also a regulatory dimension of temperament, loads negatively onto this factor after the first year of life, in a manner similar to falling reactivity.

Negative emotionality is the first domain of temperament to emerge, and aspects of negative emotionality have been measured by Rothbart and demonstrated to be relatively stable by 1 month of age. In laboratory research by Gartstein and colleagues, developmental changes in negative emotionality in infancy have been noted (e.g., with fearfulness increasing over the first year of life), with stability generally observed by the toddler period. Rothbart also described stability between childhood negative emotionality and neuroticism in adulthood.

Negative emotionality is the factor most closely aligned with what Alexander Thomas and Stella Chess (1977) identified as "difficult" temperament. That is, Thomas and Chess defined difficult temperament as a poor adjustment to change; irregular sleeping, eating, and elimination cycles; and

negative response to new stimuli (e.g., using tantrums to express frustration). Importantly, both negative emotionality and difficult temperament have been linked with behavior problems and adjustment difficulties later in childhood and adulthood, recently by Murray Weeks and colleagues.

Surgency

Surgency is a term often used to designate emotional/behavioral tendencies linked with extraversion, manifested in the first year of life. In infancy, researchers tend to measure smiling and laughter, vocal reactivity, high-intensity pleasure seeking, activity level, perceptual sensitivity, and approach (excitement and positive anticipation of pleasurable activities). As would be expected, smiling and laughter are measured in terms of frequency of the target behavior, duration, and intensity. Vocal reactivity is quantified through report of nondistress vocalizations during play and daily activities. High-intensity pleasure refers to a positive response to high-stimulus novelty, complexity, incongruity, and rate, whereas perceptual sensitivity is operationalized as detection of low-intensity stimuli from the external environment. Sociability emerges as an additional dimension in the toddler period and is both linked with other facets of surgency and more consistent with an adult version of extraversion.

Positive emotionality, initially displayed through smiling and laughter by the third month, continues to develop throughout the first year of life, as demonstrated via home observations, parent reports, and laboratory tasks, for example, by Grazyna Kochanska, Katherine Coy, Terri Tjebkes, and Susan Husarek. Positive emotionality becomes increasingly stable in early childhood, with most positive emotions discernible by toddlerhood. It is not surprising that positive emotionality has been conceptualized as a developmental precursor to the adult personality construct of extraversion.

Surgency can result in increased risk or protection with respect to behavior problems/symptoms of psychopathology depending on the context. Gartstein, Samuel Putnam, and Rothbart conducted a longitudinal study of temperament, examining its

associations with internalizing and externalizing difficulties. Replicating the results of previous studies, elevations in surgency were predictive of externalizing behaviors (e.g., impulsivity). Whereas higher levels of surgency are sometimes shown to be protective with respect to the development of depression in older children, concurrent elevations in surgency and negative emotionality in infancy were linked with an elevated risk for internalizing behaviors in later development.

Regulatory Capacity/Orienting and Effortful Control

Regulatory capacity/orienting is a temperament construct unique to infancy and reflects the origins of attention-based self-regulation. This broad factor is characterized by low-intensity pleasure, cuddliness, high soothability, and duration of orienting or attending. Unlike high-intensity pleasure, low-intensity pleasure refers to positive responses to stimuli that are familiar, simple, and low in frequency. Cuddliness is identified through an infant's enjoyment and molding of their bodies to be held by a caregiver, and duration of orienting is an infant measure of attentional persistence, or an ability to attend to a given stimulus over time.

Aspects of effortful control appear to "come online" around the end of the first year of life, and this overarching temperament factor can be successfully measured by asking parents relevant questions in the toddler period. A variety of observation tasks have also been developed to address this regulatory component of temperament and described by Jessica Kraybill and Martha Ann Bell, and a number of these involve conflict (e.g., saying "day" to a picture of the night sky), resolution of which is supported by effortful control. Composed of inhibitory control, attentional focus, persistence, low-intensity pleasure seeking, and perceptual sensitivity, the emergence of this factor is supported by the rapid development of the frontal lobe and other executive functions. With respect to adult personality, according to Rothbart, attributes most closely aligned with childhood effortful control have to do with conscientiousness, which tends to increase over the life span.

The development of effortful control coincides with the emergence of intentional behavioral regulation, which is critical in adaptive functioning. That is to say, a capacity for effortful control allows for individual differences in modulation of more dominant responses in favor of more useful subdominant response, thus facilitating behavioral and emotional regulation. As noted by Rothbart, the development of this set of attributes is particularly rapid between 3 and 7 years of age, and in school-age children, substrates of effortful control (i.e., attentional control) were associated with learning proficiency. Whereas higher levels of effortful control have been demonstrated to be protective, low levels of effortful control function as risk factors. Nancy Eisenberg and her colleagues in a series of studies demonstrated that low levels of effortful control, particularly attentional control, were associated with an increased risk of externalizing difficulties.

Further Developmental Considerations

Though temperament attributes are generally viewed as stable, greater variability prior to the emergence of effortful control has been noted. This change is largely understood in terms of executive functions developing and modulating the expression of temperament reactivity, leading to increased stability of these attributes. Beyond these neurobiological influences, it is important to note that temperament is viewed as open to environmental influences, contributing to differences over time. For example, temperament in infancy appears to be shaped in part by the actions of others that are likely culturally bound, resulting in considerable differences in temperament development across cultures, identified in research by Gartstein and colleagues.

Differential continuity of temperament attributes is understood in terms of homotypic continuity, which is the consistency of similar behavioral/emotional tendencies over time, as well as heterotypic continuity, wherein seemingly different expressions of temperament reflect a common underlying aspect of individual differences. According to Jerome Kagan, homotypic continuity is most evident after

puberty, whereas earlier childhood is more likely to be heterotypic. That is to say, behavioral/emotional expression changes with development in a more salient manner in early childhood, primarily as a result of an overall rapid pace of development during this period, despite continuity in underlying factors/neurobehavioral systems. For example, Kagan, Nancy Snidman, and Doreen Arcus (1998) reported that negative reactions to novel stimuli at 4 months of age were associated with avoidance of peer interaction at 4 years. In both instances, facets of negative emotionality are being expressed, but the behavior varies in accordance with maturity and changes in the environment.

Direction of Future Research

Important advances have been made with respect to temperament measurement, identification of the structure of temperament, and its developmental trajectories. Temperament continues to be a very active area of research within developmental science and the study of individual differences. In addition, more recent work, for example, a study by Tim Oberlander and colleagues, has begun to examine genetic and epigenetic foundations of these individual differences, as well as other biological factors, contributing to prenatal influences, often referred to as “fetal programming.” Future studies are likely to uncover important connections between fetal exposure to maternal stress and nutrition, and the underlying biological mechanisms linking these fetal programming effects to temperament development. In addition, temperament has become increasingly important to mental health, as it has been shown to moderate treatment efficacy, along with being an important etiological contributor. Thus, research that examines temperament in the context of prevention/intervention efforts is likely to expand. This is an exciting period for the study of temperament, as the gleaned insights are being implemented across a variety of areas in both basic science and applied/service efforts.

Maria A. Gartstein and
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See also Approaches to Learning; Emotional Development; Self-Regulation; Temperament; Theory of Mind

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THEATER

Theater in the early childhood years can be understood as a developmental process, and as a unique, creative expression of lived experience—and of future possibilities. Theater takes many forms in early childhood: imitation and deferred imitation, and symbolic or imaginative play.

What accounts for performance in early childhood? Jean Piaget argued that children construct understanding of their world through action (1929/2007, 1936/1963, 1937/1954). Qualitative changes in cognitive understanding are accompanied by changes in how children perform their evolving comprehension. They perform their understandings of how the world works through acting upon and in interaction with their environment. As they grow, how children understand the world and how they perform these understandings undergo qualitative changes. Children's activity is geared toward creating comprehensive understanding of the world—physical and social. This entry addresses children's developing understanding of the social environment, and its connections to theater as an arts discipline and as an everyday early childhood activity.

Theater is represented by children's performative understanding of their social environment as characterized by interactions with others and the everyday drama of human activity, as well as by human need, emotions, and agency. Lev Vygotsky (1962, 2004) theorized that the child's environment is first and foremost social and that what children learn and what they subsequently enact are rooted in the particular cultural surroundings in which they live. Like Piaget, who identified the infant's capacity to imitate observed actions—and especially to delay imitation (deferred imitation)—Vygotsky focused on the here and now of children's environments and on the matrix of actions and interactions that children observe. Although

Vygotsky was no stranger to the concept of the inner life and wrote widely on creativity and the imagination, he tilted toward lived experience as a touchstone for both cognitive and affective development, rather than toward an inner life ruled by wishes and fantasy. The imagination, Vygotsky (2004) posited, was grounded in the real world of children's lived experience, rather than an expression of the inner life, as his contemporary, Sigmund Freud, maintained.

Taking a developmental approach, play is the theater of early childhood. Imitation or miming of actions observed in real time is followed by deferred imitation. The child's gesture represents a fragment of observed experience. Children perform observed social interactions; the act of performance—and especially repeat performance—serves to incorporate gestures, expressions, and modes of interaction into their repertoire of lived social experience. Social knowledge in the early years emerges through close observing and incorporating gesture and relational modes of interacting. Performance is transformative: The child's early imitative gestures transform other people's actions, affective expressions, and patterns of interacting into the child's own social repertoire. Whose social repertoire, though, is performed and becomes the child's?

Theater in early childhood develops out of a matrix of emotional or affective relationships with loved attachment figures. Attachment provides motivation for incorporating and performing observed actions, emotional expressions, and interactive patterns in early childhood. It facilitates joint attention (Korn-Bursztyn, 2012), a key process that leads children out of closed dyadic relationships into wider social and cultural environments and networks of relationships. The phenomenon of joint attention between children and responsive, trustworthy adults draws on attachment patterns but focuses on something outside of the closed dyadic system. Joint attention assumes a third thing, something external to the dyadic relationships, but in which both parties invest shared attention. The third thing in childhood is typically play—enactment—and often embellishment: of lived experience and also of imagined, possible experiences and worlds.

When children engage with others in play, they experience a sharing of attention and focus, resulting in meaningful experience. Theater, the performance of lived experience and future possibilities, gives rise to a third thing—meaningful experience that is rooted in social interaction. Meaningful experience arises out of the interaction between lived experience, future possibility, and meaning making with others. The social component of shared meaningful experience is significant to children's play with others. In play, children engage in joint attention with their peers—sharing of attention and positive, enjoyable affective experience create bonds between children. This process is similar to how children and their caregivers bond with each other in early attachment relationships. Joint attention, especially when accompanied by positive emotions, enhances bonding between parent and child in the early years. Joint attention also functions to enhance and promote attachment relationships postinfancy. Children who perform or play their social knowledge with others—with other children, caregivers, teachers, and therapists—develop stronger emotional ties, or attachments, to these figures.

Theater in early childhood begins with performance of observed interactions but quickly develops two streams: One represents lived experience, and the other, childhood desire and ambition. Theater is enactment of experience, witnessed and lived, while the other stream is associated with childhood desires. In both streams, roles are created, assigned, and inhabited. For example, early dramatic play in toddlers typically consists of enactment of nurturing rituals of feeding and sleeping. In nurturing ministrations, even young toddlers can turn passive into active, enacting both the nurturing acts and the experience of feeling nurtured. Drawing on the social knowledge that attachment relationships have already laid down, toddlers can typically enact both nurturing caregiver and cuddled baby. The preschool-age child may perform elaborate scenes of competence, authority, and power in the guise of teacher, portraying scripts that may include recognizable characterizations but that may also emphasize a childhood fantasy of adultlike competence and control.

Children are serious about their relationship to theater—not surprising given the outsize role it plays in the construction of their social knowledge and social identities. Role assignment is a serious endeavor, as is staging the scene for the drama that is to unfold. The frame is so meaningful that it often takes precedence over narrative content. For young preschool children, the social interactions and knowledge that undergird enactment of stories—their own lived experience, and their own growing linguistic competence—are key. The process of theater—and not the finished product—distinguishes theater in childhood from its adult counterparts.

It demands that adults take a secondary role to children's initiative—theater creates opportunities for agency, offering opportunities for children to create the frame, including the narrative, which the actors will then perform. Theater in childhood is improvisational. It is negotiated; children argue about role assignment and plot development. It can hew closely to lived experience, borrowing from the content of everyday lives, but can also draw directly from cultural artifacts, including books, songs, and rituals. When adults join in children's theatrical productions, they need to be clear, however, that they are joining—taking on assigned roles and developing these in accordance with what they believe the children need, rather than their own desires.

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See also Play, Benefits of; Play, Nature of

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THEORY OF MIND

Theory of mind (ToM) is the ability people have to look beyond observed behavior and to make inferences about unobservable mental states of themselves and others and to understand that (a) others have beliefs, desires, and goals that differ from their own and (b) this knowledge can help interpret, explain, and predict others' behavior (De Bruin & Newen, 2012).

A theory of mind analysis of the fairy tale “Little Red Riding Hood” offers a realistic and remarkable example of what a difference our knowledge about minds makes in how we interpret and understand others. Angeline S. Lillard (1997) used the story of Little Red Riding Hood to show how individuals' understanding about minds differs when they interpret and understand others' minds. Little Red Riding Hood hears from the woodcutter that her grandmother is ill. She wishes to help her grandmother recover (she is considerate and caring). Little Red Riding Hood believes that a basket of treats can improve her grandmother's health; therefore, she carries the basket of treats through the woods to her grandmother's house (beliefs and desires guide her deeds). When she reaches her grandmother's residence, she finds that the wolf is in her grandmother's bed; however, she falsely infers that the wolf is her grandmother (appearances can be deceptive). After she recognizes that it is a wolf, she becomes terrified and runs away because she realizes that wolves can harm people. The wolf, who actually desires to eat her, jumps out of the bed, runs after her, and tries

to capture her (Lillard, 1997). This example shows that the individuals' mental states in theory of mind cause them to be more sensible, foreseeable, and alluring. Individuals rely on their abstract mental state understanding to both interpret and validate the others' behavior, like any theory that is used to describe and predict related circumstances (Sabbagh, Benson, & Kuhlmeier, 2013; Tomasello, 2009).

Studies on young children's knowledge about the mental world have concentrated on their interpretation of mental states and whether their mental representations of the state of affairs conflicts with reality (Lockl & Wolfgang, 2007). David Premack and Guy Woodruff's (1978) study introduced this realm of research and established the phrase “theory of mind,” in which the preliminary research hypothesis was that apes, like humans, have a theory of mind. Based on Premack and Woodruff's study, Heinz Wimmer and Josef Perner (1983) developed an assessment to determine children's theory of mind and called it a *false-belief task*, which assesses individuals' ability to infer that others hold beliefs that differ from the (perceived) state of the world (Goodman et al., 2006). This assessment is widely used, because it shows that individuals believe things that are not true. False-belief understanding is typically assessed based on standard tasks (Atance, Bernstein, & Meltzoff, 2010) that require children to predict and explain their interpretations or acts of someone whose beliefs about the world are mistaken. The following is Lillard's (1998) description of Wimmer and Perner's (1983) original false-belief task:

Children are shown a doll [Maxi], who hides a piece of chocolate in a blue cupboard. Then Maxi leaves the scene. During his absence, his mother arrives, moves the chocolate from the blue cupboard to a white one, then also leaves. Maxi returns. The chocolate is not visible as both cupboards are closed, and Maxi has clearly not seen his mother move the chocolate. Children are asked, “Where will Maxi look for his chocolate?” One should say, “The blue cupboard” since that is where Maxi left the chocolate, and he has no way of knowing that it has been moved. But what Wimmer and Perner found is that children

under four years of age tend to fail the test by claiming that Maxi will go to the white cupboard, where his mother put it. (pp. 11–12)

Studies on theory of mind have traditionally used false-belief reasoning with 3- to 5-year-olds. Presently, researchers assumed that younger children's theory of mind can be determined and have modified the false-belief tasks to use with younger children (Birch & Bloom, 2007) including infants (Apperly, 2012). Researchers designed developmentally appropriate adaptations of Wimmer and Perner's false-belief tasks to support that theory of mind can be determined in children who are younger than 3 years old. They found these developmentally appropriate false-belief tasks to be successful with younger children. Several researchers (e.g., Baillargeon, Scott, & He, 2010; De Bruin & Newen, 2012; Onishi & Baillargeon, 2005) adapted the false-beliefs task to use with infants. They applied spontaneous-response tasks (De Bruin & Newen, 2012), nonverbal tasks (Onishi & Baillargeon, 2005), and computer monitor tasks (De Bruin & Newen, 2012) to validate that false-belief understanding develops before 3 years of age. Those researchers who used spontaneous-response tasks show that children develop this aptitude before 3 years of age (He, Bolz, & Baillargeon, 2011). They discovered that performance on the false-belief task is a developmental process.

Although false-belief tasks have been used for more than 3 decades, research on several aspects of false-belief tasks must be conducted to contribute to the knowledge of the theory of mind. For instance, studies need to identify ways (a) to interpret the rationale for the content and attitudes in these tasks, (b) to improve the inferred assessment in various situations and individuals, and (c) to apply a broader analysis of the mental state components. These suggestions offer important guidelines for future research (Goodman et al., 2006) in theory of mind. Also, the development of understanding of motivational states should scientifically examine the children's theory of mind knowledge and the situations in which it is developed (Astington, 2001).

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See also Child Development and Early Childhood Education; Thinking

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THEORY TO PRACTICE IN EARLY CHILDHOOD EDUCATION AND CARE

In order to consider what we mean by “theory to practice,” we must first consider what a theory is, whether there is any agreement among scholars about this, and what purpose theories serve. There are those who would make a series of observations about a phenomenon, string them together, draw some relationships among these observations, and then call it a “theory.” There are others who equate “theory” with “truth.” Neither of these definitions is what we have in mind as we try to explicate the process of putting theory into practice. Rather, we see theory as the lens that one uses to view a particular phenomenon, in this case early childhood education and care (ECEC). This lens is constructed through careful, empirical observations that help us construct a framework that hangs together with logic. R. Murray Thomas suggests that theories go through four phases of development before becoming accepted as theories: foundations/convictions, model descriptions, logical deductions, and conclusions. A theory must also be able to be evaluated for soundness and stand up to scrutiny by others.

Evaluating the Utility of Theories

According to Thomas, there are good theories and bad theories. He posits fourteen standards to examine the utility of the theory for application to the real world of children and families. Consequently, he urges us to look at a theory's explanatory value, its clarity, its ability to predict future occurrences, whether it offers guidance to others, whether we can test it to either confirm or deny its plausibility, whether it continues to draw interest, whether it can be expanded, whether it answers our questions about children and families, and finally whether it satisfies our need to understand what we observe. If this defines *theory*, then how do we go about putting it into practice?

Reciprocal Relationship Between Theory and Practice

Theories of child development have traditionally provided a foundation for pedagogy in early childhood education and early intervention. Although a myriad of theories exist within the scholarly domain of human development, contemporary psychologists have no consensual understanding of what constitutes a theory or how theory should be used, revised, and appraised. Although theory is often portrayed in research as static, many scholar-practitioners (e.g., Thomas as mentioned previously) contend that theory must operate as an essential tool in knowledge making and take theory to be an emergent form whose life demands focused chronicling, analysis, and care. A dynamic perspective encourages scholar-practitioners to explore how a theory travels, is taken up in different times and places, and changes. It is this dynamic view of theory and its reciprocal relationship to practice that informs contemporary practice in early childhood education.

This notion of continual reciprocal negotiation between theory and practice was well framed by Edward Said, who argued that the context of time and place in which a theory is developed is essential to understand as we consider the usefulness and appropriateness of a theory. He suggests that we need to consider these contexts as we apply theory in future contexts.

The reciprocal and dynamic nature of theory is exemplified in the evolution of the Reggio Emilio model. Loris Malaguzzi developed his theory and philosophy of early childhood from direct practice with young children over a 30-year period—asserting the position that practice drives theory. Many contemporary scholars contend that Malaguzzi was heavily influenced by a social-constructivist framework derived from the theories of John Dewey, Jean Piaget, Lev Vygotsky, Jerome Bruner, and others, and that their influence, particularly that of Dewey's, are clearly visible in the Reggio Emilio classrooms.

So then, what is the relationship between a conceptual model, such as social-constructivism, and a theory that informs and is validated through practice? Typically, models are construed as being elements of paradigms that operate to build theories that can then be validated through practice. Thus, the reciprocity that is clearly evident in models of early childhood pedagogy such as Reggio Emilio, Montessori, culturally adapted models, inclusive models, and even response to intervention models all inform contemporary practice as well as are continually refined and adapted through implementation and practice across time, geography, culture, and population.

Concept of Unified Theory

Early childhood education has moved from a set of practices based on a single theoretical perspective (e.g., constructivism, behaviorism) to a *theory of practice*, often also referred to as a *theory of change*, or *unified theory*. Jack Shonkoff posits that if early childhood policy and practice focused more explicit attention on buffering young children from the neurodevelopmental consequences of toxic stress, then scientists, practitioners, and policy makers could work together to design and test creative new interventions that combine cognitive-linguistic stimulation with protective interactions that mitigate the harmful effects of significant adversity, beginning as early as possible and continuing throughout preschool. For this two-pronged approach to succeed, new strategies will be needed to strengthen the capacities of parents and providers

of early care and education (beyond the provision of additional information and supports) to help young children cope with stress.

Relationship Between Theory and Policy?

ECEC has become a policy priority in many countries. A growing body of research recognizes that ECEC brings a wide range of benefits, including social and economic benefits; better child well-being and learning outcomes; more equitable outcomes and reduction of poverty; increased intergenerational social mobility; higher female labor market participation and gender equality; increased fertility rates; and better social and economic development for society at large. The Organisation for Economic Co-operation and Development (OECD) has developed what it terms a “Quality Toolbox for ECEC” that aims to define *quality* and outlines five policy “levers” that can enhance it in ECEC. Policy analysts describe policies metaphorically as levers that can be tripped to change the behaviors of individuals and groups. These five levers include setting out quality goals and regulations; designing and implementing curriculum; improving workforce conditions; qualifications and training; engaging families and communities; and advancing data collection, research, and monitoring. The toolbox is intended to impel improvements in ECEC in participating countries and offers country by country profiles on selected themes. In each report, the focus is on the alignment of the selected lever—workforce conditions and qualifications, for example—and how this contributes to improved child development.

Poverty is a clear contributor to school failure, so there has been considerable research on the impact of high-quality early childhood education and care. Longitudinal studies such as the HighScope Perry Preschool Study, the Abecedarian Project study, and the Chicago Child-Parent Centers study provide strong, robust evidence of the lasting effects of high-quality preschool programs on young children living in poverty. The continuing struggle is how to take the evidence on quality early childhood education and care and put it into

large-scale practice. In the United States, the Common Core State Standards have worked their way down to early childhood education in prekindergarten classrooms in many states focusing on “developing the whole child” through play, artistic expression, teaching compassion, and cognitive development. The other states that have not embraced the Common Core standards—for example, Alaska, Nebraska, Texas, and Virginia (and more states are joining these ranks)—all reflect similar emphasis as those outlined by the Common Core.

Given that quality early childhood education and care is not aligned with any single theory of child development, best practice is defined by continued research on the outcomes associated with the two-pronged approach described by Shonkoff and others. This approach involves a focus on prevention of the known effects of poverty and other associated contributors of toxic stress in children while providing a coherent theoretical framework for scaffolded experiences in purposeful play and the social interaction and emotional regulation that both reciprocally contribute to it and develop from it.

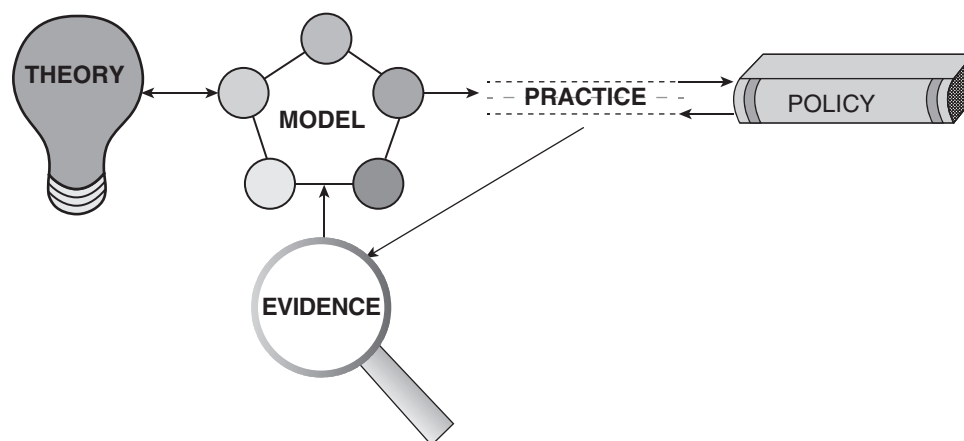
Examples of Theory-Practice-Policy Links

Urie Bronfenbrenner’s ecological theory as it influences practice in ECEC is a good example of taking Shonkoff’s suggested two-pronged

approach and the reciprocal nature of theory to practice. It emphasizes factors within the immediate setting (e.g., home, classroom, the role of adults), the interrelating influences of different settings in which a child participates (e.g., communication between parents and teachers), and the influences of the broader ecology (e.g., government policies, cultural values). *Unified theory*, as applied to ECEC by Samuel Odom and Mark Wolery, rests on the fundamental tenets of families and homes as the primary nurturing contexts, thereby resulting in the design of evidence-based practices (EBP) to support building relationships as an essential feature. It is founded on the belief that children learn through acting on and observing their environment, hence impelling the development of EBPs that teach educators how to mediate children’s experiences to promote learning. The fundamental belief of *unified theory* that families and programs are influenced by the broader context has impelled the development of family-centered planning, and the design of culturally responsive programs. Figure 1 presents a logic model for explicating the relationship between theory and practice.

The development of a theory (the lightbulb) begins with a negotiation among the parts of an interactive model composed of observations, axioms, and beliefs that explain a phenomenon. We test the theory by applying it and then examine the

Figure 1 Model of Theory-to-Practice Relationship



evidence of these practices to see if the theory is confirmed or is in need of revision. The arrows in the figure represent the reciprocal nature of the process.

Conclusion

The search for a definition of *theory* and examination of the necessity for evaluating the utility of the theory moves us into an exploration of the relationship between theory and practice and the reciprocal influence of these constructs. The logical next step is to use our understanding of theory to develop models of practice, continuing to assess the utility of the models and revise them to improve their utility. The results of such scrutiny and continual refinement should lead to a path of influencing policy that affects young children and families. At this point, the logic model begins to loop back as changes in policy influence practice and impel research on the impact of policy. Thus, we are feeding our findings back into the loop, reciprocally modifying models and theories. It is this continuous looping that defines the dynamic relationship and iterative process between theory and practice.

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See also Abecedarian Project; Bioecological Theory; Child-Parent Centers; HighScope Perry Preschool Study; Neuroscience and Early Education; Policy and Early Childhood Education; Poverty Effects; Prevention Science and Early Education

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THINKING

The terms *thinking* and *cognition* are sometimes used interchangeably, yet they have slightly different meanings. *Cognition* is the broader term signifying

general mental operations, such as recognizing patterns, processing language, and remembering. Thinking, on the other hand, is just one aspect of cognition and is defined as the process of using one's mind to reason or to produce thoughts. Thinking is used in various ways—to solve problems, make decisions, organize and synthesize information, develop plans, form judgments, and create new ideas.

This entry provides a brief overview of what research and theory have to offer to current understandings about young children's thinking. This entry also offers insight into how research on the thinking of young children provides strong support for what has been defined as developmentally appropriate practices in early childhood education.

Educational Research and Theory

At one time, prior to the 1900s, little was known about how young children think. The generally accepted understanding was that young children had less knowledge to work with than older children and adults, but that the difference in thinking was more in terms of quantity rather than quality. More recent research indicates that young children not only have less knowledge (facts) than older children and adults; they also use the knowledge they do have in different ways.

Jean Piaget and Cognitive Development

One of the first psychologists to systematically study the cognitive development of children and the way they think was Jean Piaget. Findings from Piaget's research, which was conducted in the early to mid-1900s, are still used to guide educational practices for young children. The following understandings based on Piagetian research and theory are reflected in "developmentally appropriate practices" developed by the National Association for the Education of Young Children (NAEYC).

- Children construct their own knowledge about the world around them. They learn by doing and actively exploring.
- Children's ability to think evolves over time and moves from simple to higher (or more complex) levels.

- Both biological maturation and environmental experiences influence how children's thinking develops over time.
- The way children think is qualitatively different than the way older children and adults think.

Piaget identified four distinct stages of cognitive development during childhood. Each stage is defined or characterized by a different way of thinking, as follows:

1. Sensorimotor stage—Thinking at this stage is characterized or demonstrated by motor activity.
2. Preoperational stage—Thinking is reflected through language, the use of symbols, and imaginative expressions. Thinking at this stage, however, is still nonlogical and nonreversible. Reversible, according to Piaget, refers to mental or physical actions that can go back and forth. An example of reversible thinking includes understanding that if $1 + 2 = 3$, then $3 - 2 = 1$. Another example is understanding that if ice melts and becomes liquid, it can be frozen again and become a solid.
3. Concrete operational stage—Thinking is demonstrated through logical and systematic manipulation of symbols related to *concrete* objects. At this stage of thinking, it is understood that some mental and physical actions can be reversible.
4. Formal operational stage—Thinking is demonstrated through the logical use of symbols related to *abstract* concepts.

Bloom's Taxonomy

Another educational psychologist studying the way young children think was Benjamin Bloom. His major contribution to educational research is often referred to as "Bloom's Taxonomy." This taxonomy, or framework, outlines six increasingly complex levels of thinking which are divided into lower levels and higher levels of thinking. The three lower levels consist of (1) knowledge, (2) comprehension, and (3) application. The three higher levels are (1) analysis, (2) synthesis, and (3) evaluation.

Bloom's original taxonomy was recently revised by a group of cognitive psychologists and others working to make this framework more applicable to instructional planning, where the goal is to help students move from the lower levels to the higher levels of thinking. Following is a brief description of what each level of thinking entails according to Bloom's revised taxonomy. They are presented in the order of lower levels to higher levels of thinking.

Remembering—recalling information

Understanding—explaining ideas or concepts

Applying—using information in another familiar situation

Analyzing—separating information or concepts into parts to explore understandings

Evaluating—justifying a decision or making a judgment about the value of a concept or idea

Creating—generating new ideas

Teachers, including early childhood educators, are encouraged to plan instruction in a way that will help students move from lower to higher levels of thinking. This idea is sometimes expressed as moving students beyond rote-and-remember learning to deeper levels of thinking. Foundational knowledge is accepted as a starting point for instruction but teaching practices and learning experiences are intentionally designed with higher order thinking in mind. The goal of this instructional approach is to help students move from remembering to understanding to applying, to analyzing, and finally to creating. As the following selected statements from a position paper developed by the National Association for the Education of Young Children show, there is strong support for using this instructional approach when working with young children.

- Developmentally appropriate practice does not mean making things easier for children. Rather, it means ensuring that goals and experiences are suited to their learning and development and challenging enough to promote their progress and interest.
- Effective, developmentally appropriate curriculum is based on what is known about the interrelationships and sequences of ideas, so that children's later abilities and understandings can be built on those already acquired.
- Development and learning advance when children are challenged to achieve at a level just beyond their current mastery, and also when they have many opportunities to practice newly acquired skills.
- To adjust the complexity and challenge of activities to suit children's level of skill and knowledge, teachers increase the challenge as children gain competence and understanding.

Gardner's Theory of Multiple Intelligences

The focus of some recent research is on how the brain influences specific functions. Some researchers, for example, are using information processing theory to understand memory. Others are studying ways in which intelligence is manifested and how it differs from individual to individual. One outcome of this line of research is Howard Gardner's theory of multiple intelligences. In 1983, Gardner proposed seven different intelligences: (1) linguistic, (2) logical-mathematical, (3) spatial, (4) musical, (5) bodily-kinesthetic, (6) interpersonal, and (7) intrapersonal intelligence. Gardner has since added naturalistic intelligence as an eighth intelligence. According to Gardner, these different intelligences—or ways of knowing the world—are present in every individual but differ in extent from one person to another.

Gardner's theory challenges traditional understandings about human intelligence and the way students' thinking can be assessed. The traditional theory of intelligence is based on the assumption that human cognition is unitary and that individuals have a single, quantifiable intelligence. Gardner's theory indicates that intelligence is not a static structure that can be effectively measured and quantified. Gardner presents intelligence as a multifaceted system that can be developed throughout an individual's life. The theory of multiple intelligences is a useful framework for developing educational programs where the individual needs and

strengths of each child are understood and respected. This approach reflects the principle of individual appropriateness as articulated in developmentally appropriate practices.

Lev Vygotsky and Anti-Bias Education

The content of what children think about extends far beyond academics and what they experience in the classroom. Research indicates that culture plays a major role in what and how children think. Some researchers, including Lev Vygotsky, worked from the premise that individual development can't be understood without considering the social and cultural context within which it is embedded. According to Vygotsky, social interaction plays a fundamental role in the development of cognition; and social interaction always occurs within a cultural context. Vygotsky also believed that the community in which children live plays a central role in how they "make meaning" and construct knowledge about themselves and the world around them.

Vygotsky's theory is sometimes referred to as *social development theory* and includes the idea that how children think about themselves and the social group to which they belong is an integral part of their overall development. Biases of the larger society, which include racism and sexism, can negatively affect a child's self-awareness, confidence, family pride, and social identities. Anti-bias education, which is designed to combat the harm such biases have on children, presents a positive way to think about diversity and equity among children. Surrounding children with positive messages about human diversity, giving them accurate language for human differences, and helping them develop a positive image about themselves and their social group are all critical components of an anti-bias education.

Anti-bias concepts are included in the developmentally appropriate practices (DAP) developed by the National Association for the Education of Young Children. One of the principles on which DAP is based calls for practices which are individually appropriate. This includes knowing what is culturally important to a child and his or her family and then planning activities and providing

experiences consistent with the cultural values and practices of the community in which the child lives.

Brain Research

While how children think and how their brains develop aren't exactly the same thing, these two areas of research are certainly connected and have similar findings. Both areas of research indicate that what happens in the earliest months and years of a child's life has long-term consequences on later development and learning. Brain research, for example, indicates that early experiences in a child's life help to shape the actual wiring of the human brain. Research on cognitive development indicates something similar—that is, that early stimulation promotes later growth and development, while the lack of stimulation curtails such growth.

Brain research also indicates that children's ability to learn is closely tied to their emotional development and to the quality of relationships in their lives. How well a young child learns, therefore, depends in part on the relationship between that child and the teacher and on the emotional climate the child experiences in and outside the classroom. Productive and creative thinking is more likely to flourish in an environment where children feel safe versus in an environment where children feel intimidated.

Brain Principles

In 2008, brain scientist John Medina wrote *Brain Rules*—a book focusing on how the human brain works. In addition to explaining what scientists already know about the brain, Medina also outlined 12 principles for using the brain to maximize human potential. He called these "brain rules." Since 2011, Medina has published a follow-up book, *Brain Rules for Baby*, in which he applies what scientists know about the brain to what parents (and teachers) can do to support the development of smart and happy children.

Brain Rules and Early Childhood Education

Some work has been done since the publication of *Brain Rules* and *Brain Rules for Babies* to link

brain principles to high-quality early childhood education. A basic premise of this work is that there are numerous benefits to the linking of education, neuroscience, and classroom instruction. Fortunately, what neuroscience suggests for optimizing child development is consistent with what has been articulated in the early childhood field as developmentally appropriate practices. These practices include engaging children in meaningful experiences, encouraging cooperative learning, and providing active learning opportunities. Programs implementing these practices support brain development while also being developmentally appropriate.

Ruth Wilson

See also Anti-Bias Education, Components of; Anti-Bias Education Theory; Brain Development; Child Development and Early Childhood Education; Cognitive Developmental Theory; Developmentally Appropriate Practice; Sociocultural Theory

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TODDLER ROOMS

The term *toddler* is widely used to incorporate the period of early childhood after infancy until age 3. Children under 3 in group care are sometimes separated by age into separate rooms—rooms for infants who “graduate” into rooms designed for 1-year-olds, who transition to rooms for 2-year-olds. Alternatively, toddlers are found in multiage groupings of birth to 3-year-olds. Whatever the configuration, toddler rooms are spaces purposefully planned for the care and education of these very young learners. Toddler rooms are found in full- and part-time care settings including family child care homes, community child care centers, nursery schools, preschool programs, child care ministries, and Early Head Start programs, as well as community programs supporting families and children, such as YMCAs, family resource and literacy centers, and rooms that provide care during religious services in churches, synagogues, and mosques.

High-quality care for toddlers in groups requires specialized expertise from professionals with educational preparation specific to working with children under the age of 3. A specific knowledge base and skill set provides understanding of how to support rapid changes that occur during the first 3 years of life in growth, development, and learning and as it occurs in interaction with very young children's experiences, culture, and family contexts. At the heart of practice with toddlers, as with infants, is attentiveness to relationships with, between, and among their adult child care providers, peers, and families. A requisite to supportive relationships in group care is that adult caregivers have the ability (knowledge and skills) and capacity (dispositions) to engage sensitively and responsively with toddlers as communication partners.

The remainder of this entry presents further information about group care policies, environments, and practices in toddler rooms. Current scholarship concerning toddlers in group care calls for policies and practices that promote strong, trusting relationships and environments that engage them in interesting, meaningful play experiences.

Guiding Principles

Regardless of a program's philosophical model or curriculum, professionals who care for and educate toddlers in groups should base actions on critically examined beliefs, guided by reason and sound ethical and moral principles. Numerous curriculum and program models exist, promoted for toddlers and for birth-to-age-3 group care in general; most have in common principles based upon the importance of relationships, inclusion, and communication. Developmentally appropriate practice (DAP) articulates a philosophical viewpoint and guiding principles around which caregivers can think about how toddlers grow, learn, and develop. Although DAP does not prescribe a model or endorse a particular curriculum for toddlers, it does provide a reflection point for caregivers as they plan, implement, and assess environments, relationships, and experiences with toddlers in their group care settings. DAP articulates seven principles for infant and toddler group care:

1. Understand there are multiple influences on development (e.g., access to health care, literacy level of family members, community resources), and growth and development must be viewed holistically, considering all domains of development simultaneously.
2. Welcome all infants and toddlers and their families regardless of beliefs, circumstances, needs, languages, and communication styles.
3. Enter into full partnership with families in supporting their infants and toddlers, respecting families as partners (i.e., rather than as clients or customers), honoring and respecting the decisions they make about their children.
4. Be culturally responsive by being mindful of all messages conveyed to infants and toddlers in care and the messages conveyed to their families, being respectful toward the families' responses to these messages, and acting deliberately to support every child's sense of self, including family and cultural bonds.
5. Respect infants' and toddlers' rights as full participants by respecting their needs and preferences, allowing choice, and supporting their overall well-being in their current daily lives as well as in preparation for the future.
6. Create and maintain a positive emotional climate, investing in all adult and child relationships with, between, and surrounding infants and toddlers in care.
7. Engage in sensitively responsive care by remaining mindful, in the moment when communicating with infants and toddlers, and responding in a timely fashion to expressed needs and desires.

Caregivers need to be aware of physical and structural considerations shown to be important in toddler rooms. State licensing regulations, which vary from state to state, specify minimum size for toddler rooms, and health and safety recommendations mandate factors such as required spacing between cribs and cots, whether food can be prepared on site or off, records that must be maintained, fire codes, and so forth. Recommendations for group sizes and the ratio of caregiver to toddlers come from the field of early childhood education and have remained fairly consistent in the United States for more than 20 years:

<i>Ratios</i>	<i>Group Sizes</i>
In room with 1- or 2-year-olds (separately): 1 adult: 5 or 6 one-year-olds or two-year-olds	In room with 1- or 2-year-olds (separately): 10 to 12 children with 2 to 3 adults for group size of 12 to 15 total
In multiage room with infants, 1-year-olds, and 2-year-olds: 1 adult: 3 or 4 children	In multiage room with infants, 1-year-olds, and 2-year-olds: 6 to 12 children with 2 to 3 adults for group size of 8 to 15 total

The primary knowledge bases informing practice during the first 3 years come from scholarship that addresses child growth and development, early learning research from education and psychology, and brain development studies. Highly qualified caregivers in toddler rooms utilize strong educational backgrounds and professional development focused on the knowledge appropriate for the field, along with guiding principles of DAP outlined earlier, and in-depth understanding of the unique nature of and changes that occur during the first 3 years of life to create supportive environments, relationships, and experiences for the toddlers in their care.

Understanding Toddlers

Important to understanding toddlers is consideration of changes that occur in three key developmental foci during the period of birth to 3 years—security, exploration, and identity. Each of these needs or challenges is present throughout the first 3 years, changing in intensity of emphasis over time. The concentration of physical and psychological energy shifts as the baby ages from young infancy to mobile infancy and through toddlerhood. Very young infants focus much of their energy on issues of security, whereas mobile infants and young toddlers, still seeking security, are more defined by their focus on exploration. Noticeable in older toddlers is a characteristic shift in focus to seeking to understand the self in the context of other people and things; this focus on identity is done through exploration and in the context of a developed sense of security.

Security

The security toddlers need to be risk takers and problem solvers as they explore the environment is built upon a strong secure base created by the trusting relationships and responsive care provided in infancy. Toddlers need to have learned as infants, and to continue to feel they can trust that their needs will be met in a timely and predictable fashion by a respectful, loving adult. The practice of assigning “primary” or “key” caregivers in both infant and toddler rooms promotes this sense of security. One caregiver becomes principally, but

not exclusively, responsible for a small number of children within the group with the goal of forming a particularly secure attachment relationship with those in that smaller subgroup. Continuous care practices in which groups of infants and toddlers remain together with the same primary caregivers over extended periods of time in birth-to-3 rooms further contributes to a strong sense of security.

Exploration

Mobile infants and young toddlers learn about themselves and the world around them when allowed to utilize all of their senses and move their bodies freely through space as they explore environments and the objects and people within them. Toddler rooms must be organized and equipped with materials that help toddlers experience different and interesting sights, sounds, tastes, textures, and smells; and encourage them to use small and large muscles to grasp, clap, reach, slap, drop, push, pull, bang, roll, and climb, and clamber around, under, over, and through all available surfaces (indoors and outside). Sufficiently interesting materials and toys should be available that challenge, yet do not frustrate, and facilitate the development of the understanding of basic concepts such as object permanence, patterns, and cause and effect.

Identity

Older toddlers, while still seeking security and learning about the world through exploration, are focused on building a sense of identity, of understanding who they are in relation to other people and objects in the world around them. Most important is making sure toddlers develop and maintain a healthy sense of self in terms of feeling they and their families are valued and respected. Children under the age of 3 learn important messages about caring for others and that they themselves are persons worthy of care by the way they are cared for in the group care setting.

Supporting Development and Learning

Specialized knowledge, skills, and dispositions are needed for the group care provider to support the

needs, interests, capabilities, and developmental achievements of each toddler in the room, all occurring at varying rates and demonstrated within multiple domains. Specifically, the professional caregiver of toddlers must focus simultaneously on supporting each of the highly interrelated areas of development discussed in this section: social-emotional development, critical thinking skills, physical skills development, the development of personal care and self-help skills, and the development of communication and literacy skills.

Social-Emotional Development

Central to the toddler room caregiver's focus is to help ensure toddlers' emotional well-being each and every day, while supporting their overall healthy social-emotional development. Toddler room caregivers who plan well provide toddlers opportunities to take on roles within the group to develop a sense of belonging and responsibility and experiences to develop and practice prosocial behaviors that promote caring for and about others. Further, caregivers help toddlers learn to label feelings and emotions and to manage and cope with strong emotions.

Critical Thinking Skills

Toddlers are eager learners and capable problem solvers. Caregivers need to provide environments rich with opportunities and materials to expand toddlers' natural intuitions to learn through exploration and experimentation. Success builds on success as toddlers tackle ever more difficult problems and develop persistence. Caregivers encourage critical thinking skills by providing opportunities for mathematical understanding (e.g., number sense, patterns, categorization, sorting), scientific curiosity (e.g., experience with the nature world), and creativity (e.g., building with blocks, through creative expression in art, movement, and music).

Development of Communication and Literacy Skills

Central to development the first 3 years and to the emergence of literacy are verbal and nonverbal

communication by using and understanding words, signs, and symbols. This development is facilitated by attentive toddler caregivers as they provide opportunities for meaningful conversation between individuals (adult-toddler and toddler-peers), plenty of books and numerous times for lap-time one-on-one and small group reading, varied and diverse writing and drawing tools and materials, and time and materials for dramatic play.

Physical Skills Development

As toddlers move through and about the toddler room, they are both developing and using small and large muscles that, integrated with their senses, create essential brain connections. Sensory integration works to help toddlers become increasingly more coordinated and to develop important balance and physical stabilities necessary to act as sensorimotor learners as they explore and play in their environments. (Sensorimotor learners explore using all five of their senses and their large and small muscle skills.)

Development of Self-Help and Personal Care Skills

Along with a growing sense of self in toddlers often comes a strong and emphatic desire to do things on their own—"Me do it!" Throughout toddlerhood, the child grows in capacity to help others (to be prosocial, as discussed earlier) as well as to engage in more of his or her own personal care needs. Toddler caregivers can encourage age- and culturally appropriate independence in areas of eating, toileting, dressing, and completing hygiene tasks.

By creating, implementing, and continuously assessing high-quality environments, supportive relationships, and thoughtfully planned experiences, professional caregivers optimize healthy overall growth, development, and learning for each and every toddler in the toddler room.

Mary Benson McMullen

See also Autonomy; Infant Rooms; Trust

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TOOLS OF THE MIND

Tools of the Mind is a comprehensive early childhood curriculum for preschool and kindergarten-age children and a professional development program designed to train teachers and administrators in Tools-specific pedagogy. Since its inception in the mid-1990s, Tools of the Mind has been implemented in a variety of early childhood settings including public and private preschools and kindergartens, charter schools, Even Start, and Head Start programs. Demographic composition of children in Tools classrooms is fairly diverse and includes high-poverty schools, ethnic minorities, children with special needs, and dual language learners. The educational backgrounds and experience of Tools-trained teachers also vary; those who have received the training include experienced teachers with master's degrees, Head Start assistants with GED certificates or high school diplomas, and graduates of alternative teacher education programs such as Teach for America. This entry explores the philosophical foundations of Tools of the Mind, including its debt to the educational theories of Lev Vygotsky. Further consideration is given to the curricular and pedagogical foundations of Tools of the Mind and to teacher preparation for the Tools classroom.

Philosophical Foundations of Tools of the Mind

Tools of the Mind is grounded in the cultural-historical theory of child learning and development

associated in the West with Vygotsky and Alexander Luria. It also draws from the basic and applied research conducted by several generations of post-Vygotskians, including Alexander Zaporozhets, Daniel Elkonin, Piotr Galperin, Vasily Davydov, and Leonid Venger.

Since Vygotskians identify intentionality and self-regulation as major outgrowths of the early childhood years that are necessary prerequisites for school success, promoting self-regulation is one of the main focus areas in Tools of the Mind activities. The design of these activities is based on the Vygotsky-Luria ideas of the development of intentionality and is also informed by the latest findings in the field of developmental neuropsychology and especially the research on the development of executive functions.

The core idea of Vygotsky's cultural-historical theory is that the history of human development is a complex interplay between the processes of natural development that are determined biologically and the processes of cultural development brought about by the interaction of the growing individual with other people. It is through these interactions that children learn to make use of such culturally developed tools as language or nonverbal external *stimuli-media* to organize their own behavior. The acquisition of these cultural tools—tools of the mind—does more than just allow a child to perform better on a specific task; it actually promotes the restructuring of the child's brain through the development of higher mental functions, including *deliberate*, *mediated*, and *internalized* behaviors.

This view of child development calls for a different approach to education, an approach that focuses instruction not on the competencies the child already has, but on the competencies that are still under construction—the ones that exist in the child's zone of proximal development (ZPD). Vygotsky believed that the role of the teacher involves more than teaching facts and skills—teachers can actually shape children's development by helping them acquire tools of the mind.

Specific implications of this principle for early childhood education can be summarized in the idea of amplification. The term *amplification* was coined by Vygotsky's colleague Zaporozhets as the

answer to the “push-down” curricula that turn the preschool classroom into a miniature copy of a primary classroom with teaching methods and materials modeled after the ones used by elementary teachers. The idea of amplification was also intended to offer an alternative to the notion of “spontaneous development” of young children—the idea that development could not and should not be affected by instruction. Amplification focuses on the role of education in child development, emphasizing that properly designed educational interactions do not stifle the development of young children but instead promote it, thus presenting a logical extension of Vygotsky's principle of instruction promoting development.

Vygotskians identify certain “leading activities” that children engage in and that produce the greatest gains in development. These leading activities are age specific and provide the best conditions for the acquisition of cognitive and social competencies most critical for child development at this age. In addition, when engaged in a leading activity appropriate for their age, children develop prerequisites for the competencies that enable them to successfully transition to the leading activity specific to the next age level. According to this theory, make-believe play is the leading activity of preschool and kindergarten-age children, while for students in primary grades, it is intentional learning (frequently referred to as the “learning activity”). Among the important benefits of play for young children is the development of their ability to regulate their behaviors as they learn to follow the rules associated with the roles they play. Vygotskians do not believe that play develops spontaneously in all children once they reach preschool age; well-developed or mature play, the level necessary for play to become a leading activity, emerges only with adult mediation or when young children are assisted by older children acting as play mentors.

Tools of the Mind Content

As a comprehensive curriculum, Tools of the Mind covers all subject areas and all developmental domains specified in federal, state, and local standards documents. However, in doing so, Tools of

the Mind follows developmental trajectories for the underlying competencies ensuring mastery of these subjects by 4- and 5-year-olds, rather than replicating the scope and sequence found in the curriculum materials initially designed for older children.

An example of such a Tools-specific approach is teaching early literacy in the context of children's own writing. Vygotskians see the value of learning to write not in merely preparing children for formal schooling, but in acquiring an important cultural tool critical in supporting the development of higher mental functions. Consistent with this view, writing is introduced in Tools classrooms in the context of children's planning their play, so that the writing is meaningful and relevant to children's lives. In using their plans for play—first pictorial and later written—to remind themselves and their peers of each other's play roles, children pay attention to their marks on paper and their relation to oral messages, which in turn facilitates their “breaking the code” of written language. Teaching children to plan their messages prior to writing them down by using the Scaffolded Writing technique, unique to Tools, makes it even easier for children to learn to read and write.

To help children develop intentional self-regulated behaviors, self-regulation practice is embedded in all activities across subject areas. This practice takes different forms as children engage in other-regulation working with their partners, use private speech (self-talk) to regulate their own behavior, or make use of external (tangible or pictorial) mediators to self-direct their attention to specific aspects of a task. An example of such embedded self-regulation activity is Buddy Reading, whose primary focus is teaching children about print. Children are to take turns “reading” to one another. To support self-regulatory behaviors, the teacher uses visual representations, giving one child in each pair a drawing of lips and the other child a drawing of an ear, explaining that “ears don't talk; ears listen.” Children then trade drawings and roles, thus learning how to enact the social norms of taking turns and waiting one's turn.

In addition, specific focal activities are designed to provide children with practice in certain aspects of self-regulation. For example, playing a version

of the freeze game, children practice regulating their physical behaviors as they move when the music plays and “freeze” when it stops in the position portrayed on a card held up by the teacher. In kindergarten, children practice planning and monitoring skills as they create learning plans, set their learning goals, and discuss their performance relative to these goals during weekly learning conferences with their teacher.

All activities in Tools of the Mind are designed for a 3-year age span, so that children in the classroom can participate in the same activity regardless of their developmental and/or chronological age. The content level for each child is adjusted up or down to provide challenge at each child's initial level. For example, in a counting game, all of the children count objects, but one child counts numbers under five while another child is given numbers over 20. In addition, the activity is made more challenging over time in response to children's learning, so that as the activity unfolds, an advanced “counter” may be counting by fives or exploring place value, while another child is working on numbers between 10 and 20.

Attention to play is one of the hallmarks of a Tools of the Mind curriculum. In Tools preschool classrooms, children spend a significant amount of their day (around 60 minutes) playing, and play is modeled, scaffolded, and organized in a particular way to ensure that children create an imaginary situation, act out well-defined roles, and follow the rules built in the pretend scenario. In Tools kindergartens, children continue to acquire and refine their play skills as they engage in play dramatization, creating and acting out pretend scenarios based on literature they study in class. Strategic choice of the literature ensures that children use their play to master science and social studies content along with rich vocabulary.

Tools of the Mind Pedagogy

The pedagogy used by Tools of the Mind teachers is based on the concept of individualized scaffolding within each child's ZPD, as determined by the teacher through Dynamic Assessment. Dynamic Assessment is used to establish both the child's

current level of achievement and the child's potential ability to attain higher levels. When used in a classroom, Dynamic Assessment consists of a series of prompts and hints provided by the teacher. Skills and understandings that children demonstrate as a result of minimal assistance are considered closer to being developed and are then chosen as a focus of immediate instruction.

Teachers in the Tools classrooms use the results of Dynamic Assessment to determine which scaffolding strategy works best with each individual child or with a group of children with like needs. These scaffolds are described in the teacher's manual and taught to the teachers during the training sessions. In addition to the range of scaffolding strategies aimed at typically developing children, special strategies are included to support children with special needs and dual language learners. Tools teachers also learn to use Dynamic Assessment to determine whether the level of support can be removed, as the child is more and more capable of doing the activity on his or her own. Scaffolding strategies go beyond one-on-one interactions and include the use of external mediators, private speech, and specially designed interactions with peers. Children's increasing levels of self-regulation allow Tools teachers to minimize whole group instruction and spend more time providing scaffolding to individual children, especially the ones who need extra support or extra challenges.

Tools of the Mind Professional Development

The Tools professional development program also follows the Vygotskian approach, scaffolding teacher learning through a system of coaching, workshops, and self-reflection activities designed to provide teachers with an understanding of learning processes and specific instructional tactics undergirding each activity. Teachers attend four workshops spread over the course of a school year to learn Tools activities and the basic principles of learning and development underlying activities. The next year, teachers attend three more workshops, in which they learn more about the philosophy behind Tools and also deepen their

understanding of how to scaffold children's learning individualizing each activity. Depending on the size of the program or the school district participating in the professional development, special workshops are offered for the other educators such as administrators, special education teachers, bilingual and English as a second language teachers, and parent liaisons. Whenever possible, Tools encourages paraprofessionals to attend the same workshops teachers attend as they work with teachers, forming a teaching team.

Tools of the Mind uses two models of professional development that differ in how teachers are being supported throughout a school year. The first one is high touch and involves extensive technical assistance delivered by Tools trainers to the program's teachers and coaches. This model is mostly used with large urban districts and other programs that have the necessary resources and a higher concentration of classrooms in the area. Recently, in its attempt to serve smaller and more geographically dispersed programs by offering a new model of professional development that makes greater use of technology, Tools of the Mind has developed the iScaffold, a tablet application that works as an on-demand coach with videos, developmental trajectories, and quick-start guides that assist teachers between workshops to master activities and their underlying principles.

Evidence of Tools of the Mind Effectiveness

Tools of the Mind has been the subject of multiple studies ranging from large-scale randomized trials to the evaluations conducted by individual programs and school districts. It is one of a very few early education programs that has documented effectiveness of classroom-based intervention in influencing children's levels of self-regulation both in preschool and in kindergarten. In addition, the research on its implementation in kindergarten classrooms has shown that Tools can help close the achievement gap, and that the children continue to show benefits after they exit the program. Independent evaluations of Tools show two key outcomes of implementing Tools: (1) It helps to

overcome school readiness deficits associated with being educationally at risk and (2) it affects children's academic learning in and beyond kindergarten. The benefits of the intervention continue after the students exit the program. The new research even shows an effect on stress physiology by measuring stress hormones of children in the classroom, something no other program to date has been able to show. Researchers attribute these outcomes to Tools' emphasis on short-term memory and the ability to concentrate on new information, regulate attention, control impulses, and regulate behaviors and emotions. These results produced in independent evaluations are replicated by the results found by school districts, Head Start programs, and early childhood programs using the program in populations that range from urban to rural and from at risk to middle class.

These results are particularly important in the context of the public discourse about the goals of early childhood education and the means to achieve these goals. This discourse has been dominated by two competing views on what early childhood education should be about. One view advocates an early focus on discrete skills tightly aligned with achievement standards. Proponents of this view downplay research findings indicating that this approach can affect academic achievement only in the short term. However, the benefits found in many of these intervention studies fade and do not seem to carry over to the following grade levels. On the other hand, the proponents of the whole-child approach (including many early childhood educators and parents) are having difficulty in meeting ever growing demands for accountability. Supporters of the approach embodied in Tools of the Mind argue that this dichotomy is a false one and that focusing on underlying cognitive and noncognitive competencies in the context of play and playful learning not only ensures that children meet immediate academic and social demands of formal schooling but also allows them to develop a strong foundation for success in a variety of contexts both in school and beyond.

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See also Executive Functioning; Kindergarten; Play and Early Childhood Education; School Readiness

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TRANSDISCIPLINARY COLLABORATION

Transdisciplinary collaboration is a partnership that emphasizes sharing of information, decision making, and implementation of plans among professionals in early intervention. The purpose of this collaboration is to maximize efficiency and effectiveness of early intervention services. Transdisciplinary collaboration requires a significant commitment to planning and problem solving by team members. Team members may include individuals from a variety of professions including but not limited to early childhood specialists, speech-language pathologists, nurses, social workers, physical therapists, and occupational therapists. Family members and caregivers are always central to any transdisciplinary team. The components of transdisciplinary collaboration separate it from other types of collaborative models such as multidisciplinary and interdisciplinary models of collaboration. Since its development in the 1970s, transdisciplinary collaboration has been described through aspects of implementation as well as strengths and challenges to its use within the field of early childhood.

Components

Two commonly mentioned components of transdisciplinary collaboration are *arena assessment* and *role release*. The goal of arena assessment is to conduct an integrated, comprehensive developmental evaluation. During arena assessment, one or a small group of team members referred to as *facilitators* engage with the child during assessment while other team members observe the interaction. The facilitators are responsible for eliciting behaviors from the child across developmental domains such as speech, physical movement, cognitive skills, and so forth. Facilitators often include a caregiver and a professional from the team. Arena assessment enables multiple disciplines to complete assessments during a single assessment visit. Arena assessment is intended to decrease the demand on the family and child when multiple assessments are required. Arena assessment requires team members

to be knowledgeable about the goals and methods of assessment across disciplines.

Role release is another core component in transdisciplinary collaboration. Role release occurs when one team member releases implementation of his or her discipline-specific goals to another team member. Role release is present in arena assessment as the observing team members release elicitation of their individual assessment items to the facilitators. Role release may also occur during intervention when one or a small number of team members provide direct service with a family while remaining team members take on a consulting role. The team members responsible for direct service provision are often referred to as primary service providers (PSPs). For example, the early childhood specialist may be the PSP, going into the home once per week and providing intervention focused on language development and acquisition of cognitive milestones. The speech-language pathologist may meet with the early childhood specialist to provide consultation but not actually attend the weekly visits with the family. Role release is designed to promote collaboration across disciplines and to facilitate a strong relationship among a small number of providers and the family.

There must be fluidity to the practice of role release that enables changes in the PSP or increases in numbers of PSPs as the needs of the family change. For example, a family working with the early childhood specialist on language development and cognitive milestones may begin to need assistance in feeding as the child is transitioning to solid food intake. The occupational therapist or speech-language pathologist may need to be added as a PSP to address self-feeding and oral motor prerequisites to solid food intake. This addition of PSPs as needed is a result of ongoing collaboration among team members.

Role release is often the component of transdisciplinary collaboration most discussed. However, role release is the culmination of other components of transdisciplinary collaboration including role extension, role enrichment, role expansion, role exchange, and role support. The components are focused on increasing knowledge of one's own discipline, sharing that knowledge

with other team members, and learning to integrate knowledge, beliefs, and practices across disciplines. Underlying these components is the philosophical principle that a child's development is integrated across developmental areas. For example, a child's motivation to begin crawling may be prompted when his cognitive understanding tells him that the favorite toy now exists even when it is under the blanket. The critical cognitive skill of object permanence is tied to the physical milestone of crawling.

Components of transdisciplinary collaboration are supported by consistent and intensive team consultation. It is critical that members of the team are philosophically agreeable to a significant level of integration. It is also important that team members have personalities that work well in teams including willingness to problem solve collectively and find mutually agreeable solutions to problems. Family members are core members of the team and take on active roles in problem solving, planning, and implementation.

History

Transdisciplinary collaboration was initially described in the 1970s as part of the National Collaborative Infant Project by United Cerebral Palsy. Transdisciplinary collaboration represented more intense collaboration than other types of early intervention teams including multidisciplinary and interdisciplinary teams. The transdisciplinary collaboration represented one end of a continuum of collaboration rather than a completely separate type of early intervention team. A team utilizing transdisciplinary collaboration may very well be a team that has been together for years in order to establish the trust and expertise necessary to fully implement this model. However, implementation of transdisciplinary collaboration can be done over time with concerted efforts.

Implementation

Intensive collaboration fundamental to successful transdisciplinary collaboration has its foundation

in team building. The first component of team building is structural support. There needs to be prioritization of establishing an effective team, and that requires time. Time spent in team building necessitates financial resource allocation. Teams need to establish collective goals that often begin with elements of role extension, enrichment, and expansion. Team members individually set goals to learn more about their own discipline and to be open to learning from other team members about their disciplines.

The next step in implementation of a transdisciplinary collaboration is to begin to have shared discussions about discipline-specific information such as assessment procedures, developmental milestones, and therapy strategies. Shared vocabulary develops among team members as team members discuss aspects of intervention, theories, and practices. Implementation of core components such as role release and arena assessment is the outgrowth of team building.

It is recommended that significant time be spent with team members prior to implementation and that implementation is practiced with confederate families prior to use with actual families. This practice with confederate families enables team members to identify challenges including lack of knowledge, difficulties with blurred boundaries, and logistical challenges to implementation.

Implementation of transdisciplinary collaboration with the family should begin with the intake from families at the onset of services. Intake should be a time to encourage families to share information, enabling the family to guide the intake discussion. Providing families with the opportunity to share more than simply short answers to a few key questions about concerns, family history, and medical history helps to establish families as active team members and collaborative partners.

As teams implement role release during intervention, continued team meetings are necessary. During team meetings, members plan and problem solve. At times, additional primary service providers may be added for short periods based on needs of the family.

Strengths of a Transdisciplinary Model

Positive outcomes of transdisciplinary models described in the literature include the following:

- Decreased wait times for children to enroll in services
- Increased attendance for families involved in early intervention groups
- Decreased costs associated with assessment and intervention
- Ease of scheduling for families due to decreased number of weekly visits
- More holistic view of the child due to increased integration of developmental domains
- Consistency in message communicated to family because of interdependence of team members

These strengths are indicative of the focus of transdisciplinary models on efficient and highly collaborative service delivery. Systematic research on transdisciplinary collaboration in early intervention is lacking as most investigations are descriptions of implementation with preliminary quantitative and qualitative feedback. Large-scale investigations comparing types of collaborative models in terms of early intervention outcomes are encouraged to validate the preliminary strengths discussed currently in the literature.

Challenges of Transdisciplinary Collaboration

Descriptions of models have also highlighted challenges to implementation including the following:

- Need for intensive, ongoing team meetings
- Need for philosophical alignment of team members
- Need to view all team members as equivalent members
- Integration of knowledge of different disciplines
- Use of therapy strategies that may originate from another discipline

An ongoing challenge to transdisciplinary collaboration relates to assembly and maintenance of transdisciplinary teams. Embedded in this discussion are

philosophical alignment of members, trust among team members, and time to devote to team meetings. Suggestions for meeting these challenges range from establishing a minimum number of years working together prior to beginning this type of collaboration, to philosophical assessments of team member prior to beginning, to team-building activities, to formal mentorship programs for new team members. Reflective practice as a team is a critical component to ensure that as personnel changes, the team continues to function as a transdisciplinary team. Teams must always be asking if they are still adhering to the tenets of transdisciplinary collaboration.

Conclusion

Transdisciplinary collaboration represents an early intervention team model that maximizes interprofessional collaboration and emphasizes active family participation. The model has been discussed in terms of components, implementation, and strengths and challenges since the 1970s. Its dependence upon shared knowledge and shared roles during assessment and intervention differentiate it from other types of early intervention team models. While it offers cost benefits to implementation of early intervention services to the family, it requires significant financial commitment to establish proficient transdisciplinary teams. Transdisciplinary collaboration continues to need additional empirical investigation into implementation and effectiveness.

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See also Early Childhood Education Systems; Early Intervention; Family Partnerships; Family-Centered Practices

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TRANSFORMING THE WORKFORCE

Children's development is rapid and cumulative from birth through age 8, when the environments, supports, and relationships they experience have profound effects. Their health, development, and early learning provide a foundation on which later learning—and lifelong progress—is constructed. Children experience important influences from many adults during this time period, including their parents or other primary caregivers, other family members, community members, and the professionals who provide for their care and education, health, and security. An Institute of Medicine and National Research Council study explored the science of child development for its implications for the care and education professionals who work with children from birth through age 8. This entry summarizes the major findings of the resulting report, *Transforming the Workforce for Children Birth Through Age 8: A Unifying Foundation*.

The study that resulted in the report was carried out by the Committee on the Science of Children Birth to Age 8: Deepening and Broadening the Foundation for Success, a group of expert volunteers convened from October 2013 through March 2015. The study found that much is known about how children develop and learn, what care and education professionals need to know and be able to do, and what professional learning supports they need. This knowledge has increasingly informed standards and frameworks articulating what *should be*, but it is not fully reflected in what *is*—the current capacities and practices of the workforce, the nature of the environments in which they work and the conditions of their employment, the policies and infrastructure that set qualifications and provide professional learning, and the support and oversight provided by government and other funders.

The science of child development and early learning makes clear the importance and complexity of working with young children from infancy through the early elementary years. It also illuminates the need for consistency and continuity in early care and education both over time as children develop and across systems and services. Yet just when children would benefit most from high-quality learning experiences on a consistent, cumulative trajectory, the systems they encounter are fragmented. The care and education of young children take place in many different programs and settings. They have different practitioner traditions and cultures; they are funded through multiple governmental and nongovernmental sources; and they operate under the management or regulatory oversight of diverse agencies with varying policies, incentives, and constraints. Despite their shared objective of nurturing and securing the future success of young children, those who work with these young children are not acknowledged as a cohesive professional workforce, unified by the common knowledge base and competencies needed to do their jobs well.

The gap between what the science tells us about child development and early learning and the systems and policies currently in place exists in part because these policies and systems do not place enough value on the knowledge and competencies

required of professionals in the workforce for children from birth through age 8, and the expectations and conditions of their employment do not adequately reflect their significant contribution to children's long-term success. The breakdowns that have led to this gap include the lingering influence of the historical expectations and status of various professional roles that entail working with young children; limited mutual understanding, communication, and strategic coordination across decentralized and diverse communities of practice and policy; and limited resources for concerted efforts to review and improve professional learning systems. These disconnects and limitations serve as barriers to both improving how the current workforce is supported and transforming how the workforce needed for the future is prepared.

The report offers a blueprint for action to achieve better support for these care and education professionals. It is based on a unifying foundation that encompasses essential features of child development and early learning, shared knowledge and competencies for care and education professionals, and principles for effective professional learning.

Within this blueprint, the report offers recommendations, for example, to achieve greater quality and coherence in professional learning supports, both in higher education and during ongoing practice. Those who provide care and education for infants and toddlers and those who practice in settings outside of centers and schools, such as family child care, need greater access to infrastructure for professional learning. For early elementary educators, the competencies needed to work with the youngest students can be overshadowed in broader K–12 professional learning systems that skew toward the education of older children.

Practices and policies regarding requirements for qualification to practice vary widely depending on the professional's role, ages of children with whom he or she works, practice setting, and which agency or institution has authority for setting qualification criteria. The report recommends that agencies and organizations that oversee care and education strengthen and align competency-based qualification requirements for all care and education professionals working with children from birth through age 8. Specifically for all

lead educators, meaning those who bear primary responsibility for instructional and other activities for children in formal care and education environments, the report calls for phased, multiyear pathways to transition to a minimum bachelor's degree requirement with specialized knowledge and competencies.

The science clearly indicates that the work of lead educators for young children of all ages requires the same high level of sophisticated knowledge and competencies related to child development, content knowledge, and educational practices. Holding lower educational expectations for educators working in preschools, centers, and other settings with children in their youngest years than for those working in early elementary grades perpetuates the perception that educating children before kindergarten requires less expertise than educating older children, which helps to justify policies—such as for compensation, program funding, and professional supports—that make it difficult to maximize the potential of young children and the early learning programs that serve them. Given the complex issues that accompany a minimum degree requirement, this change will require careful implementation over time and in the context of efforts to address multiple interrelated factors that affect the quality of professional practice.

The report's recommendations also address evaluation and assessment of professional practice, the role of leadership, interprofessional practice, improvement of the knowledge base, and support for implementation at the local, state, and national levels. The report also offers a detailed framework for collaborative change as well as extensive discussion of considerations for implementation, recognizing the challenges of making multiple and interdependent changes that will require strategic prioritization of immediate actions as well as clearly articulated intermediate steps to achieve long-term goals. Significant mobilization of resources will be required, with investments from government at all levels and from nongovernmental sources. Therefore, assessments of resource needs, mobilization of funding, and financing innovations will be important.

Many of the challenges discussed in the report are not new. If the needs of the professionals who

work with young children continue to be neglected, it will perpetuate a fragmented approach to early care and education that results in inadequate learning and development of young children, especially among the most vulnerable families and communities in the United States. The changes recommended in the report hold promise for improving the quality of professional practice, the quality of the practice environment, the status and well-being of the workforce, the recruitment and retention of a robust pipeline of new professionals—and ultimately, outcomes for children. It is through the quality work of these adults that the nation can make it right from the very beginning for its children.

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Note: This entry is adapted with permission from the Institute of Medicine (IOM) and National Research Council (NRC). 2015. *Transforming the workforce for children birth through age 8: A unifying foundation*. Washington, DC: The National Academies Press.

See also Early Childhood Research and Policy Linkages; Highly Qualified Early Childhood Teachers; Workforce Development

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TRANSITION TO PARENTHOOD

The birth of a child constitutes a major, if normative, transition in the life span marked by dramatic changes in psychology, sociology, and health. Many dramatic role changes accompany the advent of parenthood, including redefinition of identity, psychological preparation, realignment of relationships, and eventually negotiation of child

care responsibilities, and the transition to parenthood is moderated by multiple factors. It is little wonder that a book titled *What to Expect When You're Expecting* has long tenanted the best-seller list. All that said, the transition to parenthood is only one stage in the individual and family life course. This entry covers stages of the transition to parenthood and variability in them, the demographics and biology of the transition, family systems and the transition, moderators of the transition, methods of studying the transition, and determinants of the transition.

Stages of Parenthood and Variability

The transition to parenthood may turn on a defining moment when a child is born, but its boundaries—when the transition to parenthood actually begins (in childhood playing house, in courtship, at marriage) and when it ends (if it ever does until the parent dies as children constantly change and so the requirements of parenthood do)—are less well defined. Becoming a parent itself consists of several stages in which parents refocus their thoughts, feelings, and behaviors. For example, parenting cognitions cast a long shadow: Mothers' antenatal attachment expectancies and representations toward their unborn child predict mothers' expressed sensitivity postnatally. Because no criteria for successful parenthood are known, the transition to parenthood is also fraught with uncertainty.

It needs to be understood, too, that there is no uniform transition to parenthood because pregnancy may occur before or after marriage, education, and career; because people may transition to different types of parenthood as married, step, foster, or adoptive parents; and because multiple processes of change that normally accompany the transition to parenthood in self-efficacy expectations, gender roles, personal control, information seeking, anxiety, and depression likely follow different paths. Adaptation to the arrival of a baby may have joyful or negative consequences for the quality of marital relationships (which tends to suffer a slight deterioration) and for the division of household labor between spouses (which tends to

become more traditional). A given parent might also be in multiple stages of parenthood with children of different ages.

Although there is great variability, identifiable changes occur from pregnancy to a few months postpartum: Normatively in this period, parenting self-efficacy, life satisfaction, and conflict increase (over the long and short term), and depression and anxiety (about labor or health of the fetus) and marital relationship satisfaction decrease (these negative marital relationships may be significant at the time but are not necessarily of lasting importance). Women's interest in domesticity also increases after they become mothers. Furthermore, marital relationships and level of involvement during the process of becoming a parent do not transit independent patterns of change, but development of both dimensions mutually influence one another.

Demographics and Biology of the Transition to Parenthood

In the United States, the vast majority of people (80+%) become parents, the average age at first birth is approximately 25 years, and the average relationship length when couples have their first child is approximately 3 years (Bornstein, 2015). However, teenage motherhood is epidemic (273,105 live births in the United States in 2013 [Centers for Disease Control and Prevention/National Center for Health Statistics, 2015], as approximately one in three adolescent women becomes pregnant by the end of her 19th year [Bornstein, 2016]), and increasing numbers of adult women are delaying conception, extending the age range for pregnancy, birth, and the transition. These demographic trends are ascribable to several factors that contribute to the decision to bear a child and so the transition to parenthood, and they apply to first-time parenthood. For example, the widespread availability of contraception (and to some degree assisted reproductive technologies) has rendered decisions of whether and when to bear children elective. Yet, the rates of unintended and intentional pregnancies are about the same. Notably, transitioning to unplanned parenthood is associated with many poorer forms of

parenting, increased likelihood of perinatal mood problems, and reduced well-being. Changing cultural mores also permit increasing numbers of people to reject parenthood or to terminate pregnancies and so remain voluntarily childless.

Family Systems and the Transition to Parenthood

Individuals function, not in isolation from one another, but as part of a family. Families are systems composed of subsystems of interconnected and interdependent individuals. The transition to parenthood involves family systems. Systems undergoing change are especially volatile, and as the family moves from one stage of its life cycle (childless) to the next (parenthood), equilibrium established during the former stage is disrupted by changes in one or more family members and the complexification of the network of family relationships. In the transition to parenthood, the family system expands from a single dyadic couple relationship to include a mother-child relationship, a father-child relationship, a triadic relational system, and an emerging coparenting component to the couple relationship. This important developmental transition can only be fully understood within a systems perspective, as all the individual- and interpersonal-level processes of change that men and women undergo when becoming parents are normally interrelated and mutually influence one another.

Moderators of the Transition to Parenthood

As suggested, the transition to parenthood is inherently heterogeneous as it is moderated by several factors, including how the family system is built, the stage of life of the parent, how old the parent is, and other sociodemographic factors, such as parity, ethnicity, and work status.

Biology Versus Adoption

Most parents are biologically related to their children, but the adoption and rearing of children by adults who are not biologically related has a

long history (regulations concerning adoption can be found in the Code of Hammurabi, 1750 BCE), and adoption is common in all cultures. The transitions to parenthood by parturition and by adoption differ. That is, giving birth to versus adopting a child differentially affect the development of parental identity and influence subsequent parenting behavior, and biological and adoptive parenthood each entails unique tensions and stresses. Parents are normatively members of cultures that expect they will give birth to their child. Adoptive couples may therefore approach parenting and the transition to family life with atypical cognitions that in turn influence their transition into parenthood. For example, when parenting is unplanned versus planned (as adoption must be), marital feelings and relationships may follow different courses, and relative to biological parents, adoptive parents face different challenges (e.g., acceptance of infertility) that impact their progression through the transition to parenthood.

Biological and adoptive parenting each has positive and negative consequences. By some reports, parents who adopt or gain a stepchild report greater life satisfaction than parents who birth a biological child, and those parents do not necessarily experience adverse well-being during the transition to adoptive parenthood, despite the stressors associated with adoption. The transition to parenthood for stepparents may be associated with relatively less stress because stepchildren are almost always older and presumably less challenging to care for than are newborn biological children (although stepparenthood is associated with its own challenges). Moreover, parents who acquire a stepchild are also usually newly married, and getting married is linked with enhanced well-being.

Mother Versus Father

The transition to parenthood is not the same for mothers and fathers, and so engenders the need to conceptualize two different transitions: the transition to motherhood and the transition to fatherhood. The transition to parenthood is accompanied by readjustments and changes that reflect important gender differences and that operate on structural as

well as biological levels. Of course, more is known about the transition to parenthood in women. Although women and men undergo substantial biological changes in the transition to parenthood, after all only women actually give birth. Social factors, such as maternity leave, may further accentuate differences in mothers' versus fathers' involvement during and after the transition to parenthood. In short, it is inappropriate to generalize about the transition to parenthood across gender.

Age

As suggested, people transition to parenthood at widely varying ages, and so the timing of parenthood affects the transition. Younger and older parents are differently prepared. Generally, adolescent mothers and fathers appear less able or likely than adult mothers and fathers to negotiate the transition smoothly because of experiential factors or on account of teens' own levels of ego development, emotional maturity, attitudes and expectations, and cognitive limitations. Teenage parents may possess less complex and multilevel beliefs about parenting and certainly command fewer resources than adult parents. In essence, developmental demands of adolescence and parenthood compete. Life events that often co-occur with becoming a young mother include having a low birth weight or preterm infant, having a sick infant, becoming depressed during the pregnancy or after the birth, changing residence or school attendance patterns, and suffering a constricting social network.

Other Moderators

Numerous other factors likely moderate the transition to parenthood. For example, the family system undergoes different changes with the birth of a first versus a later child. As they transition from primipara to multipara, parents report having less free time, enjoy fewer financial resources, feel more overwhelmed and tied down, endure increased strain at work due to the need to make more money, and experience more stress at home because of the need to care for additional children.

Features of the transition to parenthood, such as marital conflict and tensions, vary in parents of different ethnicities. Participation in the labor force or not alters the transition to parenthood, and the work statuses of parents generate ecologically different family systems. In families where both parents-to-be are wage earners, both parents may need to be more involved in the care of children. Last, first-time adult civilian versus military parents face different challenges, have access to different supports, and follow different paths in the transition to parenthood.

Methods of Studying the Transition to Parenthood

Beyond personal phenomenology, what is known about the transition to parenthood derives from scientific research designs of different sorts, but usually focuses on questions of stability/instability and continuity/discontinuity experienced by each individual and each couple during the process of becoming parents. To explore changes and adaptations that take place across the transition to parenthood, parents are most often studied longitudinally, that is, before and after the birth of a child. Longitudinal within-subject designs provide for powerful analyses, as this approach controls for variance due to additional individual factors, such as gender, personality, and so forth. However, this strategy can be flawed. Consider the assessment of well-being. If well-being is first assessed during pregnancy, researchers need to interpret any subsequent change in well-being across the transition to parenthood as a change from its pregnancy level, not as a change from some "true" baseline in the person, because pregnancy itself is likely associated with improved well-being. Ideally, then, longitudinal baselines should be established over multiple assessments prior to pregnancy (or adoption). Longitudinal studies that examine some dependent variable of interest across the transition to parenthood commonly only assess that dependent variable over a relatively short period of time. However, children typically reside with their parents for close to 2 decades and maintain relationships with their parents throughout

their lives, so examining some dependent variable in parents even, say, over the first 5 years after the transition to parenthood yields only a narrow perspective. Alternative between-subject designs compare parents with nonparents across the parent's transition to parenthood, but these designs too of course have advantages and disadvantages.

Determinants of the Transition to Parenthood

People appear to be differentially prepared for parenthood and experience the transition to parenthood differently. Why? Greater personal growth in the transition to parenthood has been reported by mothers than fathers and by parents of premature infants than those of full-term infants. Demographic characteristics also contribute, with greater growth predicted in younger age and lower education parents. Understanding individual variation in the transition to parenthood calls for information about the biological and psychological characteristics of each individual in the family; these include differences attributable to persons rather than to situations, such as gender (mother vs. father and male vs. female child), ethnicity, socioeconomic status, and family type (e.g., married, divorced, step, foster, adoptive) as well as sociocultural context, relationships in parents' families of origin, and the relationship between the parents, with special emphasis on their division of roles, communication patterns, and coparenting. Autonomy during pregnancy predicts well-being across the transition to parenthood, and sense of control is associated with fewer symptoms of anxiety and depression across this transition. Relationships between nuclear family members and key individuals or institutions outside the family (friends, peers, workmates, child care, school, ethnic group, government) also matter as sources of stress, support, models, values, beliefs, and behaviors.

Thus, characteristics of the parents (e.g., timing of the transition to parenthood, such as early or late), characteristics of the child (e.g., term or not, easy or difficult), and characteristics of the family (e.g., structural differences, such as single, adoptive,

or step) all matter to the transition to parenthood, as do cohort effects (effects of sociohistorical experience on development as manifest by different generations because what is known about the transition to parenthood at any one time may be unique to the cohorts studied and not generalize to other generations of parents). For example, current research that examines the impact of social change (such as female participation in the workforce, gender roles, increasing use of child care, adult children at home, and/or alternate family structures) on the transition to parenthood may be applicable only to the here and now.

Stress and Personality

New parents experience changes in their personalities. Personal stress and marital stress increase during this transition. Although new parents experience an increase in well-being soon after the birth of their child, this increase normatively dissipates within the first year. Generally during the transition to parenthood, gender roles become more traditional, with women becoming the primary caregiver, and marital satisfaction also often declines.

Cognitions and Information Seeking

Expectations of the division of labor in parenting are normally optimistic and may deviate from actual involvement that takes place after the birth. The extent of the mismatch between expectations held during pregnancy and the real level of partner involvement constitutes violated expectations that often heighten dissatisfaction and lead to decreases in contentment and relationship satisfaction.

Women actively seek information in anticipation of a first birth, use this information to construct identities incorporating motherhood, and change the information they need as the event comes closer (i.e., information seeking about labor is greatest in the second and third trimesters, information about child care in the third trimester). Such information is a primary determinant of self-definitions of motherhood in middle-class European American women living with a male partner.

Internal Working Model

A mother's perceptions of parenthood are influenced by her attachment relationships and representations, by her own experiences from childhood and adolescence, and by the infant. Aspects of the mother's past are thought to activate during the transition to her own parenthood. For example, attachment insecurity is associated with greater parenting stress and more psychological distress during pregnancy and the transition to parenthood. Research into intergenerational parenting concerns itself with the transmission of beliefs and behaviors across generations. For better or worse, parenting patterns are often passed down within families.

Child Effects

Parents of infants with relatively easy temperaments (low in fussiness/difficulty) report experiencing more positive changes across the transition to parenthood than parents of infants with difficult temperaments. So, individual differences of all sorts in children make a difference in the transition to parenthood.

Social Support and Coparenting

Social support refers to the psychological and tangible resources available to individuals through their relationships with family, friends, neighbors, workmates, and others. Both informal support systems (the extended family) and formal ones (schools, child care, parent education programs, and professionals) influence the transition to parenthood. Support from husbands is associated with good adjustment in all areas during pregnancy and postpartum. Women experiencing a difficult adjustment turn to support networks. Integration or isolation from potential support networks mitigates or exacerbates the course of the transition to parenthood. On average, coparenting experiences are positive and stable over the first 6 months of parenthood, but fathers typically are more satisfied with coparenting than are mothers. The prebirth marital relationship and especially fathers' positive marital interactions are important indicators of whether

both parents feel supported and validated in early coparenting. Violated expectations for the division of child care predict the ways in which coparenting experiences unfold. Support from family members and other groups is associated with more successful transitions to parenthood. For example, supportive relationships predict less parental depression and greater psychological adjustment after the birth of a child.

Structural Factors

Mothers of unplanned children give less time and attention to their infants and demonstrate more negative parenting practices compared with mothers who planned their pregnancies. Unplanned pregnancy is associated with a greater likelihood of perinatal mood problems and reduced maternal and paternal well-being in the postpartum period.

Marc H. Bornstein

See also Fathers; Mothers; Parenting Effects on Child Development; Parenting Support and Education

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TRANSITIONING

Children from birth through age 8 make multiple transitions across settings, services, and providers. This means children (and their families) often change settings or providers both within and across a particular span of time. Within a span of time, such as a single day or week, children may participate in multiple programs or settings. For example, a child may change programs and locations within a single day, such as a child care program in the morning, and a prekindergarten program in the afternoon. The child may stay in one setting (e.g., public school building), but change programs during the day, attending Head Start in the morning and public preschool in the afternoon. Children often also change settings or services across time. For example, a child may receive child care in a family child care home as an infant and toddler, move to a group child care setting at age 3, and then enter public kindergarten when the child turns 5 years of age.

All of these are examples of what is referred to as *transitioning*. These changes can at times be difficult for children as they often must learn a new set of rules, adjust to different schedules, and interact with different adults and children in a new setting. The goal of good transition planning is to support children in successfully adjusting to new settings, so they can continue to grow, develop, and learn. The time it takes for a child to adjust impacts how quickly the child is able to meaningfully engage in the schedule, activities, and curriculum. This entry provides information about (a) the what of transition, including different components of the transition process and who is responsible for

supporting children and families as they transition; (b) the why of transition, including desired outcomes of good transition planning and reasons that transition planning is an important component of early childhood services; and (c) the how of transition, including simple strategies and activities to support children and families as they move across settings.

The What of Transition

There are a number of ways to support children and their families as they transition between and among various settings and services. To provide this support, it is helpful to first think about two major components of the transition process: preparation and adjustment. Preparation refers to strategies and activities that occur in children's current setting/program to help them navigate the transition process and develop the skills and knowledge they need to be successful in a new setting. Preparing children and families for a transition is the responsibility of the teacher/program currently serving the child, often called the *sending* teacher/program. On the other hand, the *receiving* teacher/program is responsible for supporting the child's adjustment to the new setting. Adjustment refers to the strategies and activities that occur in the child's new setting to support them in acclimating so that they meaningfully engage physically, cognitively, and socially in the environment, curriculum, and classroom routines and activities.

Two other important transition concepts are alignment and continuity. Alignment refers to the degree to which the curriculum, teaching strategies, activities, philosophies, and expectations are similar or congruent across the settings in which children spend time. The greater the misalignment, the harder it may be for the child to adjust to new settings. For example, if the child leaves an environment where the classroom uses a highly structured curriculum and moves to an environment with an emergent curriculum, the child might have difficulty adjusting to changes in curricular expectations and thus, to the new setting. Such adjustment difficulties often pose issues related to

behavior, feelings of safety, and relationships to caregivers or teachers.

Another key concept in transition is continuity. Continuity means the degree to which a child's experiences across settings produce connections that help the child navigate varying expectations within the setting. Continuity is supported in a number of ways, such as staff in each setting sharing appropriate information about children or efforts to systematically connect curriculum across settings. In contrast, discontinuity occurs when the experiences across settings where a child spends time are not well matched, for example, a classroom environment that has established rules and routines versus a classroom where routines and rules change daily or weekly.

Finally, transition practices and strategies include intentional activities used by early childhood professionals to support a child's and family's preparation for and adjustment to a change in settings, services, or programs. These practices and strategies might be implemented at the program, classroom, or individual level. An example at the program level would include transition activities designed to support communication across staff in sending and receiving programs. At a classroom level, activities include those designed to support groups of parents or children such as an open house or sending welcome letters. At the individual level, activities include those tailored to meet the individual needs of a child or family, such as a pretransition home visit to get to know a child and gather information on specific concerns the family may have about the children's upcoming transition.

The Why of Transition

Supporting a child through transitions can result in better academic and social outcomes, as children adjust more quickly and successfully to the new environments, settings, and services. Good transition planning also benefits family members including reducing the stress often associated with concerns about how a child will adjust to a new setting. Family members often worry about such things as will the teacher like my child, will my child make friends, or how will my child handle riding the bus to school?

While transition planning can be beneficial for all young children and their families, in order to meet some children's needs, transition planning is critical. For children with disabilities who receive services under the Individuals with Disabilities Education Act (IDEA), the law requires transition planning for children as they leave early intervention at age 3 (often home-based services) and move to preschool services, most often provided through the public school system. The child's and family's service coordinator facilitates the transition process, including developing a transition plan as part of the child's individualized family service plan (IFSP). Children and their families who receive services through Early Head Start and Head Start also must receive supports for transition, as they move both into and out of the Head Start program.

When transition planning is done well, both families and children benefit. For families, transition planning focuses around four major areas. First, families get the information they need to be actively involved in the transition process. Second, families are able to meaningfully participate in their child's educational experience. Third, families are able to support their child's developmental needs in collaboration with their child's teachers. Fourth, families are able to persistently advocate to ensure that they have the information they need to participate in decision making about the services their child will receive, as well as the ways they might be involved in their child's education and care.

For children, transition planning is successful when children are able to meet three major outcomes. First, after the transition children are able to meaningfully engage in the social (adult and peer interactions) and physical (materials and activities) environments within their new setting. Second, children are able to adapt to the structure (e.g., routines, schedule) and culture (e.g., written and unwritten rules and expectations) within the environment. Third, children continue to grow and learn. While these outcomes could easily describe expectations for any high-quality classroom, the more quickly children are able to engage, adapt, and continue their developmental trajectory, the more likely their success may be related to transition planning efforts, including the degree to which

the sending program was successful in preparing them for their new environments.

The How of Transition

An important role for both sending and receiving teachers is supporting the transition by providing continuity of care across settings. There are a number of practices and strategies that can be implemented to support the transition process. Many of these practices and strategies are low cost and are easily embedded into the general curriculum used by sending and receiving programs.

Starting at the program level, transition can be supported by finding ways to support communication and collaboration between sending and receiving agencies and programs. Strategies that are used at this level include the following:

- teacher visits to the sending or receiving programs to better understand skills and routines that children have or will experience;
- professional development opportunities for teachers that include both sending and receiving program staff;
- sharing information (in person or in writing) about the different programs in the community so teachers are aware of the schedules, approaches, philosophies, curriculum, and so forth across various programs that serve children and families;
- developing processes to align curriculum across early childhood programs; and
- clearly articulating transition timelines and supports/resources available.

At the classroom level, teachers support children and families in both the preparation for and adjustment to new settings by making transparent connections between programs and services. Strategies include the following:

- child and family visits to programs/classrooms before the transition;
- providing an open house before the transition to share information about the program, curriculum, and schedules and to answer parent questions;

- sending welcome letters home to each child and family;
- receiving teachers visit children in their current settings to talk about their new classroom or program;
- developing and sharing video tours of classrooms to share with children and families before they enter a program;
- using phase-in days that allow children to gradually adjust to new settings;
- setting up classrooms at the beginning of the year to more closely replicate settings children have participated in previously; and
- sending information packets home to families to keep communication open on what is happening in the classroom and strategies for supporting their children's adjustment to the new program.

At the individual level, children and families often may benefit from additional supports that are tailored to meet their needs. Strategies to support individualization of transition supports include the following:

- developing an individualized transition plan based on child and family needs;
- sharing information with the receiving teacher about the child, the child's individual needs, and strategies that have been successful in working with that child, which can be accomplished through written packets of information or in a face-to-face meeting;
- individual visits by children and families to new programs prior to their official start in the classroom/program;
- conducting a home visit prior to the transition to identify specific needs; and
- conducting a home visit after the transition to discuss the child's adjustment and identify additional strategies needed by the child or family.

While not an exhaustive list, the practices and strategies above give an idea of the wide variety of ways that transitions can be supported for both the child and the family. It is critical that transition planning is not left to chance; rather it should be thoughtful, purposive, and intentional in terms of

embedding practices as part of the overall services and supports provided by the program.

Guidelines that might help the strategy selection process include the following ideas. Developing a close, positive teacher–child relationship is of utmost importance in supporting the child's long-term success, both academically and socially. Therefore, transition practices that provide the child an opportunity to establish and develop this relationship prior to beginning a new program are important. In addition, the practices and strategies selected for use by a program or teacher should closely align with the program resources, philosophy, and values. At the same time, practices and strategies should be selected based on overall needs of the children and families served in the program or classroom, while allowing for communication and continuity across the early childhood programs available to children and families within the community.

Beth S. Rous

See also Congruence; Early Childhood Education; Early Childhood Education Systems; School Readiness

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TRANSITIONS AND ROUTINES

The terms *transitions* and *routines* are often linked together to describe dimensions of early childhood care settings and refer to classroom organization and teacher strategies around the use of time and space. Transitions refer to times during the day when children move from one learning activity to another (e.g., from the art center to the manipulative center), or from one designated activity time to another (e.g., from whole group to outdoors). Routines refer to events that happen on a regular and recurring basis within group early care and education settings and are typically associated with task-oriented activities such as greeting and dismissal times as well as personal care routines such as diapering. Routines also include the overall organization of the daily schedule. This entry provides information about the roles of transitions and routines in the everyday lives of children, teachers, and families in early care and education settings.

Overview

Most preschool children in the United States experience some form of outside-the-home care prior to entering kindergarten, and children enrolled in organized child care may spend more than 30 hours a week in those settings. Planning for quality learning experiences often focuses on teacher-directed or child-initiated learning experiences that occur during whole-group, small-group, and

center-based activities. Children, however, can spend up to one-third of their days engaged in everyday routines and transitions outside of those planned “learning” times. By viewing transitions and routines as unique opportunities to establish high-quality teacher–child interactions, early childhood professionals can add richness to their classroom environments through specific strategies and classroom management techniques.

Guiding Children With Transitions and Routines

Many classroom schedules include individual and small and large group activities, outdoor and indoor play, and essential personal care routines. Skilled classroom management involves planning and implementing transition strategies that are compatible with recommendations for best practice as well as the particular purposes and philosophy of the program. Sudden, abrupt changes can be difficult for children, and transitions both assist children in bringing closure to an activity and prepare them to engage in an upcoming portion of their day with minimal disruption.

Transitions are often used to dismiss children from a whole-group activity in an orderly fashion or to safely move between rooms. Transitions provide signals that learning activities or classroom choices are changing. An example of this type of transition is a song that precedes clean-up time. Transitions are also related to guidance through specific learning activities that help children make independent choices, build a sense of classroom community, or wait for turns. Numerous curricular resources provide specific ideas for effective and engaging transitions along with tips for ensuring that transitions complement the daily routine. Transitions are chosen to match the ages and stages of the children involved and can appeal to a variety of learning styles. Transitions can also assist children with specific behavior issues, such as distraction or noncompliance.

Routines provide structure and predictability to the day and contribute to effective guidance through self-care and regulation. Established

routines for greeting children, for example, provide reassurance for children and parents about the consistency of care. Routines for diaper changing or meal preparation ensure that important health and safety regulations are met in an organized fashion. Consistent routines help create a genuine sense of classroom community through repetitive, comforting actions that can soothe both caregiver and child, such as a nap routine that involves reading a story, dimming lights, and playing soft music. Routines give cues to children about expected behaviors. Routines can facilitate cooperation and compliance and reduce power struggles by helping children focus on concrete achievable steps, such as a familiar dressing routine.

Classroom Quality and Culture

A variety of specific classroom environment analysis tools provide guidance on transitions and routines. Recommendations include a well-organized classroom daily schedule, transitional strategies that further the learning goals of the curriculum, and routines that meet required licensing or accreditation standards. Quality classrooms use routines and transitions to establish emotionally secure relationships through teacher–child interactions that convey respect. Research suggests, however, that teacher–child interactions during transitions and routines often consist of directive rather than open-ended conversations. Caregiving routines in particular are not typically characterized by high-quality interactions even though they offer the opportunity for joint-attention activities (focusing on the same event or object) associated with early language development.

Routines engage children in activities that reflect the social and cultural values of a program, such as family-style meals, values about personal space or privacy, or the sharing of toys. Well-planned transitions and routines can further specific learning goals or support a defined philosophy. Montessori and HighScope approaches, for example, include routines and transitions for center choices and cleanup. The Reggio Emilia approach supports a more open daily schedule, adjusted to the interests of the children.

Transitions and routines are an important part of the fabric of everyday life in early care and education settings. The use of appropriate transitions and routines is a key part of teacher training that can transform the utilitarian function of transitions and routines into rich learning experiences that foster high-quality teacher–child relationships.

Beth Hatcher

See also Approaches to Learning; Classroom Assessment Scoring System; Guiding Behavior; Warm and Responsive Interactions

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TRAUMA AND YOUNG CHILDREN

An extraordinary number of young children are exposed to trauma that may impact their development, health, and readiness for school. *Trauma* is an emotionally distressing or painful experience that overwhelms an individual's ability to cope and can result in feelings of despair and hopelessness. Trauma can lead to short- and long-term

negative consequences for an individual's functioning in daily life, health, and well-being. Early childhood education programs play an important role in reducing the impact and prevalence of trauma in young children's lives. This entry will outline the prevalence and types of trauma experienced by young children, describe the impact that these experiences have across the life span, and explain trauma-informed care practices.

Stress and Trauma

An important developmental task in early childhood is learning to cope with everyday stress. Common stressors in the early years include meeting new people, separating from primary caregivers, and encountering unfamiliar situations. In the context of a safe and nurturing environment and supportive relationships, young children learn how to cope with everyday stressors. In doing so, they build resilience and competence that contributes to their successful functioning in life. Sometimes these commonplace stressors are referred to as tolerable stress, in contrast to what is referred to as toxic stress or traumatic stress. When children are exposed to abuse, neglect, or other traumatic experiences, they may experience toxic stress that overwhelms their coping ability. These kinds of traumatic experiences can be particularly harmful to children's health, well-being, and capacity to learn.

Child abuse is one of the most widely recognized types of trauma affecting young children. Very young children are disproportionately affected by abuse and neglect. According to a 2012 report by the U.S. Department of Health and Human Services, 26.8% of child abuse and neglect victims were younger than 3 years old, with the prevalence highest in children less than 1 year old. Neglect was by far the most prevalent form of maltreatment (78.3%), while 18.3% of maltreated children were physically abused, and 9.3% were sexually abused. Children may also experience trauma as a result of exposure to other types of adverse experiences, including community or domestic violence, natural disasters, car accidents, parental substance abuse, and war and political conflict.

The effects of child maltreatment and other forms of trauma are long lasting and cumulative. The landmark 1998 Adverse Childhood Experiences (ACE) study led by Dr. Vincent Felitti found that traumatic childhood experiences have profound and lasting effects on adult health later in life. The ACE study asked participants whether they had been exposed to abuse, household dysfunction, or violence during childhood. More than half of them reported one traumatic experience, and one fourth of them reported two or more traumatic experiences. The study found a direct relationship between the number of adverse experiences in childhood and the risk of health problems in adulthood such as heart disease, substance abuse, diabetes, and premature death.

Impact of Trauma on Young Children

Trauma exposure can interfere with young children's brain development, health, and learning. Children typically achieve numerous developmental milestones during the early childhood years, such as sitting, walking, talking, self-regulating, forming secure attachments, feeding, playing, and learning to share. However, when children are exposed to trauma, they may regress or have difficulty attaining these milestones, often resulting in developmental delays and interfering with learning. Many, but not all, young children exposed to trauma may display one or more symptoms, including extreme temper tantrums, aggression or fearfulness, hypervigilance, or difficulty separating from their caregiver. They can be irritable and anxious, and may either withdraw from others or demonstrate attention-seeking behaviors. Sleep difficulties and nightmares are common, as are digestive issues, low appetite and low weight, and regressive behaviors such as wetting or soiling. Children may also reenact their experience of trauma through play, and may believe that they are to blame for their experience.

Trauma-Informed Care

It is important for professionals who work with young children and their families to understand the

prevalence and impact of trauma, strategies for supporting children exposed to trauma, and what can be done to prevent trauma exposure. Early childhood educators play an important role in young children's lives and help increase children's resilience by providing safe, stable, and nurturing environments and relationships. *Trauma-informed care* is a term that refers to a set of professional practices that support children in feeling safe and secure so they can thrive and heal. For example, maintaining predictable daily routines is important for children who have experienced trauma. Early childhood educators can encourage children to express themselves through dramatic play or expressive arts, create a warm and welcoming physical environment, teach children words to express their feelings, model positive behavior and effective problem-solving skills, and maintain a support network by keeping in regular contact with caregivers and other providers. Most importantly, recognizing that children's challenging behaviors are often adaptive responses to their traumatic experiences helps professionals to approach children and their families from a strengths-based perspective. Practicing self-care and collaborating with others can help professionals who themselves may experience stress from working with traumatized children and their families.

Anne Douglass

See also Challenging Behavior; Child Abuse Prevention; Emotional Development; Stress and Resilience in Families

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TRUST

Trust is having the belief that someone or something is reliable. It means having feelings of security, certainty, and confidence in the reliability, cooperativeness, and helpfulness of someone or something. This entry provides an overview of trust and how it relates to early childhood education.

Overview

There are three types of trust: (1) Relational trust is having trust in a specific person, (2) generalized trust means trusting people in general, and (3) abstract trust is having trust in systems or abstract entities. The successful building of a trusting relationship between two people leads to the formation of relational trust. Over time, one-on-one trustful relationships result in feelings that are generalized to trusting others. The third type of trust results from a person's experiences with societal systems, such as schools, the police, or medical services, for example. People tend to develop trusting or mistrusting attitudes toward societal systems and abstract entities based on their own individual experiences.

For this entry, the focus is on relational trust. Trust is the foundation of many theories of interpersonal relationships and is often described as the most important component in the development of healthy, successful social and emotional development. Relational-specific trust is an important criterion for successful living because it is fundamental to the

success of all one-on-one human relationships. Any relationship, whether it is between a parent and child, life partners, teacher and student, or supervisor and employee, succeeds or fails depending on the level of trust that has been established between the people involved. Without trust people feel vulnerable, unsure, apprehensive, and unsettled. They hesitate, hold back, and may feel fearful. Without trust, people are inhibited from success in some form or fashion and positive relationships are likely to fail.

Early Childhood Education

John Bowlby's attachment theory and Erik Erikson's psychosocial theory are based on the idea that trusting experiences with other people in early life lay the foundation for psychological well-being and future adult relationships. Bowlby emphasized the importance of caregiver responsiveness to an infant and the development of attachment during the first year of life. He proposed that from the experiences an infant has with a primary caregiver, the infant develops a simple mental relationship model of self and the caregiver. This internal working model of the infant's attachment relationship with the caregiver impacts the child's responses to other people. Thus, a relationship between the infant and caregiver that is marked with positive social interactions, attention to needs, and the building of unconditional attachment leads to the infant's generalized trust of other people.

Through his psychosocial theory, Erikson proposed that the development of a sense of self results from one's relationship with others and the desire to affiliate and to be with other people. This theory proposes eight stages across the life span, each marked by a sense of struggle or crisis that represents different social, cognitive, and biological needs. Each crisis has two possible outcomes with one providing an opportunity for a resolution of the crisis, healthy development, and increased potential for successful social development and the other outcome leading to stagnation or hindrance to positive social and emotional development. Positive resolution of the crisis at each stage depends on whether or not a child's family, society, and culture meet the child's stage-related needs.

The successful resolution of the crisis results in developmental progress. Since the stages of psychosocial theory build on one another, what happens in each preceding stage impacts the current stage as well as future stages.

Trust versus mistrust occurs from birth to 18 months and is the first stage of Erikson's theory. During this stage, infants learn trust through responsive nurturing care. If an infant is not responsively fed, kept engaged in his or her environment, and nurtured, then a sense of mistrust may develop. Trust is central to development during infancy, laying a foundation for feelings of security that underlie the infant's ability to advance in development and successfully proceed to the second stage of psychosocial development, which is autonomy versus shame and doubt. According to psychosocial theory, the issue of trust and mistrust arises at each successive stage of development with the outcome being either negative or positive. Thus, the sense of mistrust can be activated at a later stage of development depending on the child's experiences and circumstances. This has implications for both parenting and early childhood education.

The development of trust and attachment in young children is relevant to early childhood education. Helping young children feel safe and secure through responsive care leads to the successful formation of attachment and feelings of trust. One consideration occurs when a young child enters an early childhood program and children transition from the care of parents to the attention of early care and education teachers. This requires that the child have a positive relationship with the parent and also begin to develop trust with the teacher. Since infants are totally dependent on the care that adults provide, the way that adults respond to a child's needs can facilitate the development of trust. When an early childhood teacher accurately interprets young children's cues and signals, provides warm responsive care, and meets children's emotional and physical needs, a bond of trust is formed and children are able to broaden their trust from parents to teachers and caregivers.

Giving young children time to adjust and to gradually enter into a program provides time for

them to make the transition from home to the early childhood environment. Easing the child in over a period of a few days or a few weeks helps the child to extend trust from the family to the early care and education teacher. Early childhood programs that use a primary caregiving system, where teachers work with small groups of young children, are more conducive to the establishment of attachment and trust between child and early care and education teachers. Primary caregiving systems, where teachers provide a secure base, acknowledge the importance of trust in order to help to facilitate the child's transition to a new environment. When the same teachers interact with and provide care for the same children each day, this continuity supports children in the development of close trusting relationships.

The quality of experiences that young children have in early childhood education programs impacts the development of trust between the child and the caregiver. This has relevance to children's abilities to form future relationships and to make developmental progress not only in the social and emotional processes but also in cognition. Early care and education programs and teachers have a responsibility to provide opportunities for children's successful transition from the family to the caregiver and for the establishment of programming that facilitates the optimal development of trusting relationships between caregivers and young children. Trustful early relationships form a lasting foundation for young children's healthy psychological development and growth.

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See also Attachment and Stress; Autonomy; Brain Development; Cognitive Developmental Theory; Initiative and Industry; Psychosocial Theory

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TYPICAL DEVELOPMENT

Typical development occurs as a child grows and changes according to a predictable sequence and timetable across several integrated, but also distinct developmental domains, or areas of specialization. High-quality early childhood care and education requires professionals whose work is grounded in an understanding of child development because knowing how young children grow and learn informs decisions about curriculum as well as managing and supporting their physical care and emotional well-being. This entry discusses the typical developmental patterns in early childhood for physical, affective, and cognitive development.

Physical development is the domain that centers on growth and refinement of the body's mechanical systems—bones, muscles, tissues, and organs, including brain development and the child's increasing ability to control large and small muscles, or motor skills. The affective domain includes the emergence and development of the child's emotional self, identity, and social awareness and skills. The focus of the cognitive domain is intellectual operations—the use of the brain, including the acquisition of language, thinking, and mental processing skills. Typically developing children achieve milestones such as crawling, walking, and speaking when most other children of the same age are expected to do so. When reaching developmental benchmarks in one or more areas is significantly delayed or absent, a child may be considered to have “special needs.” In early childhood education, the term *developmentally appropriate practice* refers to the idea that care, curriculum, materials, and activities for young children should be planned in consideration of both universal expectations for the general trajectory of development and individual variations from one child to another.

Expected milestones during the early childhood period in each of three major domains for typically developing children include the following:

1. *Physical*: large and small muscle control for locomotion, self-help skills, and the ability to manipulate objects and tools

2. *Affective*: secure attachments with adults, self-concept, identity, self-regulation, and development of healthy peer relationships
3. *Cognitive*: receptive and expressive oral language skills and the ability to integrate physical, affective, and mental processes to initiate and respond to changes in the environment

Developmental Processes

Physical Development

Healthy babies gain weight rapidly; by 1 year of age, most have tripled their birth weight and sprouted many of their primary teeth, which will begin to be replaced by adult teeth at around age 5. The newborn cannot even hold its head erect without adult support, as the baby's head is disproportionately large compared with the rest of the body and compared with the relative size of the head to the body for children, adolescents, and adults. By around age 2, many children have reached half their adult height and have enough language and muscle control to begin toilet training. After this time, the rate of growth begins to slow significantly. Limbs and torso begin to lengthen relative to head size. By age 7, healthy children typically weigh between 35 and 60 pounds and stand between 45 and 51 inches tall. As children near the end of the early childhood period, their body proportions and motor skills are more like those of adults than babies; they will continue to grow about 2 inches per year until the growth spurt that occurs during adolescence.

In general, children's physical development proceeds from the head downward (cephalocaudal) and the center of the body toward the extremities (proximodistal), with increasing control, integration, and refinement of the large and then small muscle groups as time goes on. A baby's brain contains billions of nerve cells (neurons) at birth, but few connections (synapses) between them. During the early childhood period, synapses are created at an astonishing rate, and these synapses enable and facilitate communication between and among the neurons the baby's brain already has. The brain develops distinct areas of function

through a combination of inherited traits and experience, into a complex system metaphorically comparable to an air traffic control center. The brain's various specialized areas control basic body functions (such as breathing), balance and movement, processing of sensory stimuli, development of memory and emotion, spatial awareness, and higher order thinking (executive functioning). The brain is also "plastic" to a certain degree, transferring function from one area to another in the event of damage from an accident, for example. As a child's brain grows, it also becomes more efficient, as unused synaptic connections tend to disappear. Modern brain research continues to point to the critical importance of the early childhood period to brain development.

Many physical movements are controlled by reflexes at birth that gradually fade as the baby's motor system and skills strengthen. Reflexive responses such as sucking, startling, rooting, and gagging are biological protections needed for survival. But within several weeks after birth, the neck and shoulder muscles have strengthened enough for the baby to lift its head, and turn from side to side in response to light or noise. Subsequently, as physical development progresses downward, the infant will gain control and use arm and chest muscles to roll over and raise her trunk from a lying position. When able to control hips and back muscles, the baby will sit up at around 6 months of age. Increasing control of upper and lower legs a few months later will allow the baby to pull up to a standing position by holding on to furniture or an adult for support. Walking begins with feet wide apart and arms raised for balance; the gait narrows and arms lower as control, strength, and coordination increase.

As a child continues to grow, coordination of large muscles and balance improves, and refinement in agility, speed, and control continue to advance as the child's motor skills become more integrated. While infants are born with fine motor skills they need to survive, such as oral structures that enable the baby to suckle, other fine motor skills are largely absent, such as the ability to focus. However, within a few weeks after birth, babies begin to visually track the movement of

objects across their field of vision and acquire the ability to focus on the object, locate it in space, and use their hands and fingers or feet to swat at it, grab for it, and eventually grasp and hold it. As the wrist and hand muscles strengthen, the child acquires more control over the thumb and first finger and fine motor skills advance to being able to hold and control eating utensils, use simple tools like a wooden hammer or large crayon, or stack a set of small blocks. By school age, children are still slightly farsighted, but generally have the fine motor skills necessary to manage tools that require more refined manual control, such as writing implements, scissors, or even a musical instrument. They can engage in such complex and varied physical activities as drawing and writing, gymnastics, ice skating, hammering a nail into a board, or hand sewing. They may engage in vigorous and sometimes rough play, testing the limits of their strength and endurance. They are capable of having highly specialized motor skills and can integrate skills such as running and throwing at the same time.

As a child nears kindergarten and school age, the effects of health habits and quality of medical care can be significantly apparent in terms of their effects on the child's continued physical growth and brain functioning. Inadequate nutrition, untreated illnesses, and excessive or untended tooth decay may result in a child falling significantly short of expected adult size, strength, and mental capacity. While a child's body growth rate, size, and weight are largely determined by genetics and environmental factors, intentional practice and training are often implemented with young children to facilitate development of motor skills.

Affective Development

In the affective domain, children learn to adapt their inherited biological characteristics to different circumstances and control their behavior and interactions according to the socially acceptable norms of their culture and environment. Affective development in the early childhood period proceeds in recognizable stages distinguished by strong internal motivations that when navigated successfully, provide the basis for a healthy self-concept and social

adjustment. Very important during this time are the development of secure attachments, a sense of autonomy, and acquisition of important coping skills such as resilience (stress management) and self-regulation (intentional impulse control). Over time, children's overt and observable responses become less reflexive and centered on physical/survival needs, and more intentional and internalized as they gain language, moral reasoning skills, identity, and awareness of social structures.

Humans are social creatures, and infants and children deprived of social contact can fail to thrive physically, intellectually, and emotionally. As a baby's needs are repeatedly met in an environment with predictable routines, the trusting infant bonds with primary caregivers and learns to wait before crying, beginning the process of self-regulation that is so important to developing an ability to respond to challenges and social expectations. Within a few months, infants display personality characteristics that distinguish them as unique individuals. They can also demonstrate affection and a full range of recognizable emotions including happiness, excitement, anger or irritation, depression, and anxiety.

As children acquire mobility and language, their emotional focus shifts to gaining independence and autonomy and they begin to distinguish themselves as individuals and use language assertively. Between the ages of 3 and 4, children become very interested in social relationships. They use their emerging vocabulary, command of language, and learning by trial and error to negotiate different types of relationships—with adults, siblings, and peers. A sense of belonging, and emerging motivation to be liked, respected, and recognized for accomplishments typically translates to the work ethic and industriousness characteristic of children at the older end of the early childhood period. By the end of the early childhood period, most children also have well-established peer groups and the disposition to use language to negotiate conflicts, express feelings, and describe ideas.

During early childhood, children also acquire their gender identity and begin to understand and associate themselves as members of different social groups and classes. Older infants recognize and

react differently to familiar faces and those of strangers, and early biases or prejudices toward or against different ethnic groups can emerge as early as 18 months. Preschool children may not realize that gender is fixed, and may engage in intensely culturally stereotypical “boy” or “girl” behaviors out of anxiety that their gender is subject to change based on superficial factors.

Cognitive Development

Cognitive development, or mental growth and intellectual functioning, occurs as the brain’s knowledge capacity increases and becomes more efficient, allowing the child to acquire the ability to process, store, and use different kinds of sensory input and information. Brain density and sophistication increase more during the early childhood period than at any other time during the human life span. In as little as two years, the infant who cries as an automated response to hunger acquires the remarkable cognitive ability to understand, produce, and process at least one language and use intentional mental operations to control body systems and behavior. Cognitive development is interpreted in various ways by different theorists, but most agree that children acquire knowledge and understanding by responding and adapting to their environment and experiences.

Jean Piaget, a Swiss psychologist, described cognitive development in a manner generally accepted today as a reasonable explanation for how the brain processes new information, and how the thinking of children can be characterized in distinct stages over time. From birth, knowledge begins to form as bits of information are stored in the mind as “schema.” Infants’ thinking is characterized as “sensorimotor”—processing information primarily as sensory inputs that are reinforced, combined with other schema, and refined through repeated experiences. Physical knowledge develops as children make connections between objects and ideas about how and why they work. As a child is continually exposed to people, objects, and experiences of different kinds, analytical, or “logico-mathematical,” relationships begin to form. A third type of knowledge is characterized by culturally or societally specific conventions (such as the

names of letters) that the child learns to apply according to particular rules.

Each time the brain processes new information, it may recognize the stimulus and assimilate it readily as being consistent with other similar and existing schema. If not, cognitive conflict, or “disequilibrium,” occurs and a more complicated process commences as the brain must rearrange or adapt existing schema to accommodate the new information. For example, if a baby has a large dog at home, and recognizes the sound of the dog’s appearance and bark, when he encounters a small dog at the park, he can’t immediately process it as a dog since it isn’t identical to his dog, but because the new dog also has four legs, a tail, and a similar bark, may tentatively categorize the new animal as a dog as well, adding to his existing concept of what “dog” means. But the baby might also see a small pony and at first label it in his mind as a dog too, until later experiences provide enough information for him to identify more specifically a broad category of animals that includes both pony and dog. Infants are fascinated by new objects and sensations and gradually engage in play behaviors that are primarily focused on repetitive or functional operations on objects. Once a baby has acquired the mental concept of “object permanence,” realizing that things don’t disappear necessarily when out of sight, she will typically enjoy playing peek-a-boo with an adult.

Toddler play and cognitive development is characterized by an interest in things they can move and manipulate. Toddlers engage in parallel play, within proximity of and noticing what other children might be doing, but not necessarily interacting with or initiating collaborative play. The 2- to 3-year-old child is also beginning to use objects for symbolic representation, a necessary achievement for later literacy and mathematics; for example, pushing a small block across the floor and making noises to pretend that it is a car.

From about ages 2 through 7, the way children think becomes “preoperational.” With an already established mental storage system and accumulation of different types of knowledge gained through experience and processing, children use their language, social interactions, and a largely trial-and-error process to begin to move away from “magical” thinking,

and toward a more rational, logical, and organized approach to problem solving. They begin to use what they know and manipulate objects intentionally to increase their understanding of how the real world works. During this time, the typical child will figure out important concepts such as reversibility of processes and conservation, or constancy of quantity despite appearance to the contrary. During this time, children also become less egocentric, realizing that their visual and mental perspectives are not necessarily those of others. This change can be seen in play preferences, as children move from a primary interest in pretend play as 4- and 5-year-olds to increasing interest in organized games and activities with rules. While they will not truly be able to begin solving problems exclusively through mental effort until adolescence, at about age 7, preoperational thinking gives way to operational thinking, when children develop the ability to solve abstract problems, with the continued support of objects and materials they can manipulate to help them work through the mental operations needed to do so.

Another significant cognitive accomplishment and process is the acquisition of language. Most children develop language according to a predictable sequence that culminates eventually in their ability to communicate effectively in various ways. The brain's amazing capacity in even very young children allows them to learn two or more languages simultaneously and switch back and forth between them effortlessly. Long before children can speak, they recognize voices, tone, and inflection, and develop a fascination for words and language.

We produce expressive language through speaking and writing, and receptive language is the means by which we understand others through reading and listening. The components of language include its structure (syntax), meaning (semantics), and functions (pragmatics). Babies use crying, vocalizing, and gestures to communicate. These strategies give way to more systematic babbling, with the first true words typically emerging at about 1 year. As the baby's fine motor skills associated with eating, chewing, and swallowing solid food develop, the child also develops the ability to produce actual speech. Soon the child will use a word to convey a phrase, and combine single words into simple phrases with

rudimentary syntax and inflection (e.g., "Mommy go?" includes a subject/verb combination that conveys a question). Children acquire vocabulary as they begin to name people and objects they can see and touch first, and then the words that represent more abstract connections, such as verbs and modifiers and words that convey feelings or ideas. A typical child's vocabulary increases from about 50 to 100 words at 18 months to about 2,000 words by the time he enters school. By this time, a child also understands about five times the number of words he uses for speech and can also apply environmental clues to figure out words he doesn't understand, a sign of readiness for the symbolic processes of decoding and encoding necessary for learning to read and write.

Humans seem biologically motivated to make sense of unfamiliar information or experiences, so the incentive to learn is great, but because learning and development of language is dependent upon continued exposure to both familiar and new experiences, some young children are considered to be at risk if they reach school age with less experience, language, and cognitive processing ability than others. Many efforts have been made to compensate for perceived experiential deficiencies with early intervention, because of the importance attached to the early childhood period for cognitive development.

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See also Child Development and Early Childhood Education; Cognitive Developmental Theory; Developmentally Appropriate Practice; Emotional Development

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UNIVERSAL DESIGN FOR LEARNING

Children typically come to school with a range of abilities to see, hear, attend, write, read, count, understand English, transition from one activity to another, manage physical tasks, care for their own needs, engage in learning activities, and remember. These abilities are mediated by the variety of experiences children have had at home and in previous early education and care settings. In the past, many teachers expected their students to conform to a standard of learning and behavior. When it was discovered that a student's abilities were outside what was considered typical, the teacher and other members of the educational team (e.g., occupational therapists, physical therapists, speech and language pathologists, family members) would collaborate to develop strategies and consider adaptations to the curriculum to help the struggling student succeed.

This type of “after the fact” approach was not efficient, especially as increasing numbers of children were fully included in early childhood classroom settings. Educators found that the principle of universal design provided a more desirable approach. Instead of starting with a one-size-fits-all curriculum and making adjustments as needed, universal design for learning (UDL) requires teachers to plan goals, methods, materials, and assessments that provide all learners with equal access to the curriculum right from the start. For

example, instead of providing all students with the same learning activity and expecting them to perform at the same level, the teacher would consider the knowledge, skills, and abilities of the children in her class, and then develop differentiated versions of the activity for her students. She might have adapted scissors available, vary her instructions, allow children flexibility in how and where they are seated, and provide extended time for children needing it.

Roots of Universal Design for Learning

Universal design was first introduced in the field of architecture. Using this principle, architectural visionaries worked to anticipate the needs of and plan physical spaces for the benefit of all people, including individuals with physical and intellectual disabilities. As a result of changes dictated by this principle, many streets now have curb cuts, public buildings are accessible via ramps, aisles are wider, and electronic doors to numerous buildings open as they sense that someone is nearing the entrance. Users discovered that these innovations benefited everyone, not just people with disabilities. For example, not only do curb cuts benefit individuals who use wheelchairs; they also benefit parents pushing baby strollers, teenagers who are skateboarding, and people who use walkers or canes. Doors that open automatically or by pushing a button make it easier for shoppers to reach their car whether they have their arms full

of groceries, use a wheelchair, or need to hold the hand of a young child to keep him safe. In a similar vein, UDL has caused educators to anticipate and plan educational experiences that benefit all learners, including those with physical and intellectual disabilities.

Support for Universal Design for Learning

The implementation of UDL for all learners is supported in legislation and the position statements of major professional organizations such as the National Association for the Education of Young Children (NAEYC) and the Division for Early Childhood (DEC) of the Council for Exceptional Children. The 1997 and 2004 amendments of the Individuals with Disabilities Education Act (IDEA) mandate access to the general education curriculum for children with disabilities. IDEA emphasizes children's right to participate in a challenging curriculum, to the best of their ability. This legislation provides incentives for general and special education teachers and related service providers (e.g., speech and language pathologists, occupational therapists, physical therapists) to collaborate to ensure that each child with special needs has access to and can participate in the same curriculum content as his or her peers.

In 2009, the two major professional associations of early childhood educators, NAEYC and DEC, published a joint position statement, *Early Childhood Inclusion*. The position statement recommends that early educators implement UDL practices to provide multiple and varied formats for instruction and learning so that *every* child has access to optimal learning environments, to home or educational routines and activities, and to the general educational curriculum. In this way, all children can learn regardless of individual, cultural, or linguistic differences.

UDL principles promote access to learning by providing multiple means of engagement, representation, and expression. These multiple means provide flexibility in the curriculum that provides a variety of ways to initiate and sustain each

student's interest and motivation. Early educators must be careful observers so that they can assess not just children's knowledge but also their dispositions and feelings about educational content. Careful observation of young children includes not just watching what they do but also actively listening to what children say and what their actions and body language imply that they want to say. Similarly, early educators learn about children's interests by actively observing their play and interactions with other children, adults, and classroom materials. Emergent curriculum approaches, such as Reggio Emilia, include an understanding that teachers prepare the environments for learners with varied interests and abilities.

Multiple Means of Engagement

Multiple means of engagement refers to the range of ways that children can be motivated, given their different learning styles and challenges, interests, and preferences. Teachers can learn about children's interests and experiences by communicating with family members. Topic-related artifacts, such as gardening tools and live plants, can be added to the environment to increase children's participation. Additionally, as teachers ask questions about these high-interest objects, they facilitate student engagement. Documenting or otherwise featuring students' work in classroom journals or on bulletin boards may facilitate engagement as children reflect on things they did, share observations with peers, and invite family members to look at the documents. Finally, children might use communication cards, sign language, or Braille to engage with their environment.

The project approach supports the ongoing development of curriculum in response to the interests and abilities of children, thereby providing an excellent context for multiple means of engagement. For example, a project on pizza might respond to one child's interest in the machines that prepare the ingredients, while another child might be interested in the process of selling pizza to customers. A child with an intellectual disability

might work at cutting apart and combining play-dough pizza toppings, while a child who is gifted in language might focus on designing menus.

Multiple Means of Representation

Multiple means of representation refers to the variety of ways in which children can gather and share information. A teacher might present information to her students in ways that are responsive to their unique learning styles, abilities, and experiences such as through the use of visual supports (e.g., photos, drawings, felt board characters) while engaging in large group book reading or storytelling.

Emergent curriculum approaches, such as the project approach, can provide early educators with opportunities to consider each child's preferred mode for learning. A teacher can plan multiple ways to investigate a project topic, depending on the individual children in her class. For example, she can make available props and costumes for dramatic play, nonfiction literature, software, Internet sites, visits from guest experts, and field trips. Powerful firsthand experiences such as field trips can provide children who have a range of abilities opportunities to learn in ways that might not be possible had they only seen a picture or even a video about the topic. For example, during a project on pizza, a teacher might provide children with chef apparel, pizza pans, and tools for making pizza. She also can provide children with opportunities to visit a pizza parlor and interview people who work there.

Multiple Means of Action and Expression

Multiple means of action and expression refers to the variety of child responses that demonstrate knowledge or skill across ability levels. In other words, expression refers to the ways in which individuals organize and express their thoughts. Teachers can plan developmentally appropriate opportunities for young children to express themselves in a variety of formats (i.e., raise their hand, vocalize, show a picture card,

use sign language, use an augmentative communication system). Additionally, a teacher might arrange for one child to dictate a story about a trip to the pizza parlor, and she might join another child in the housekeeping area to scaffold his representation of the pizza parlor trip through dramatic play. Media such as glue, tape, paint, cardboard, and clay can be provided to children so they can express their ideas.

Other strategies to support a variety of responses using actions and expression include adding props to the dramatic play and block areas to spark peer interaction and higher level play skills. Teachers might also adapt materials to ensure that all children can use them (e.g., books with popsicle sticks attached to help children turn pages, art smocks with Velcro closures to support independence during painting), or they might pair a socially skilled child with a less skilled peer to support learning and social interaction.

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See also Differentiated Instruction and Assessment; Differentiation; Project Approach; Reggio Emilia Approach

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VIOLENCE IN FAMILIES

Violence in the family is a major public health problem as it has significant physical, psychological, and social consequences for children, families, and society. The impact of violence persists beyond the current period of exposure and can affect individuals several years later. Family violence is particularly pernicious as it often occurs behind closed doors and outside the public view leaving many victims unidentified. Moreover, experiencing family violence in childhood significantly increases one's risk for violence as a perpetrator or a victim in later intimate relationships.

Definition

Definitions of family violence vary immensely due to different conceptualizations of which behaviors constitute violence and due to the use of diverse data collection methods. Several dimensions are reflected in definitional variations including family members involved, time frame, nature of exposure, and type and severity of behaviors. Family violence involves at least one family member as a victim and one as a perpetrator, with violence between adult partners referred to as intimate partner violence (IPV), marital or interparental aggression, or domestic violence, and violence between parents and children referred to as child maltreatment, child abuse, or parent-to-child

aggression. Family violence exposure is defined in a variety of time frames, including current or very recent exposure, anytime within the past 12 months, or anytime during the individual's lifetime. The nature of violence exposure refers to the extent of a family member's direct involvement in the violence. This can include being a direct target of aggression or witnessing (e.g., seeing or hearing) aggressive actions toward a family member. Types or categories of family violence may consist of physical abuse, sexual abuse, and emotional or psychological aggression involving threats or demeaning insults. Behaviors can vary widely in severity ranging from pushing, shoving, and slapping to more severe acts such as choking, beating up, or murder. Despite considerable debate about whether corporal punishment is a form of family violence, notable adverse consequences have been associated with corporal punishment.

Prevalence Rates

Family violence is one of the most common and severe negative events youth can experience during childhood. Data on the incidence of family violence can be obtained from legal and social service agencies responding to reports of violence, through nationally representative surveys, or through community studies. Statistics are widely discrepant depending upon the data source, with typically higher prevalence rates obtained through broader sampling procedures utilized in population-based

surveys or community assessments compared with official legal reports. Regardless of source, family violence rates are likely *underestimates* as parents and children may minimize or underreport behaviors that are socially and legally unacceptable.

Data from the National Survey of Children's Exposure to Violence (NatSCEV), an ongoing nationally representative survey, indicate that each year 10% of children ages 0 to 9 are exposed to some form of family violence, with 6% exposed to IPV between parents. Lifetime prevalence rates are substantially higher with 20% of children through age 9 exposed to family violence. Each year more than 1 in 10 children under age 17 are direct targets of child maltreatment including physical abuse and psychological or emotional abuse, with rates doubling over the lifetime to nearly 1 in 5 children (19%). Child maltreatment patterns were similar for boys and girls for physical abuse or neglect; however, psychological abuse was slightly higher for girls than for boys. The most common perpetrators of family violence were fathers or father figures (e.g., stepfathers, cohabitating partners) perpetrating 78% of IPV incidents witnessed by children, although mothers or mother figures as perpetrators were also prevalent (32%). Developmental patterns of children's exposure to violence indicate that witnessing family assaults, including any physical violence or threats, is one of most common victimization experiences for children during both infancy and toddlerhood up to age 5, with a peak of family violence exposure in their preteens and early adolescent years (ages 10 to 13). Patterns of co-occurring family violence—with families experiencing multiple types of violence—are also common, such that families who experience IPV often report child abuse as well.

Summary of Consequences of Children's Exposure to Family Violence

Family violence is associated with impairments in a wide range of domains including children's behavioral and emotional functioning, physical and mental health, psychophysiological regulation, cognitive and academic performance, and peer and

romantic relationships. The nature and extent of impact depends upon the developmental stage of the child. Specifically, for younger children some common sequelae include disruptions in attachment to caregivers, irritability or emotional distress, sleep problems, somatic complaints, fears of being alone, and regression in language and toileting. Externalizing (aggressive, oppositional, and delinquent behaviors) and internalizing (withdrawn, depressed, or anxious behaviors) symptoms are prevalent as are post-traumatic stress symptoms including sleeplessness or nightmares, agitation, and increased arousal.

Family violence also contributes to disruptions in children's physiological regulatory processes that regulate the body's response to and recovery from stress. Both overactivation and underactivation of stress response systems, particularly in the hypothalamic-pituitary-adrenal (HPA) axis responses of infants through school-age youth, have been linked to violence in the home, increasing risk for physical and mental health problems. School-age children also exhibit increased anxiety, have trouble concentrating or paying attention due to intrusive thoughts, and have problems with learning and academic performance. Experiences of self-blame or feelings of guilt are common as children develop more cognitive and emotional awareness about family violence exposure. Peer difficulties, including increased aggression, low levels of social competence, decreased interpersonal sensitivity, and poor empathic abilities are also linked with family violence.

Risk and Protective Factors

Although family violence can adversely affect children in several ways, not all youth experience maladjustment. Many environmental and individual factors have been identified that may protect young children from the negative effects of family violence, or increase their risk for problems. For example, a supportive relationship with a nonviolent parent or other caregiver is a protective resource, as is access to wider social and community support systems. Children's use of emotion-focused coping strategies (e.g., self-soothing, controlling their own

distress) helps buffer adverse effects while use of problem-focused strategies (e.g., intervening in marital violence) is linked to poor outcomes.

Implications

Young children's coping and adaptation following family violence is substantially improved by creating a safe, stable environment with consistency and predictability. Although this is likely a complicated process for children exposed to family violence, those who work with young children and families can make it a priority to help them utilize support from extended family, mental health professionals, teachers, law enforcement, and other social and community groups.

Michelle C. Ramos

See also Aggression; Attachment and Stress; Conflict Management; Family Health; Stress and Resilience in Families

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VOCABULARY

Vocabulary refers to both words and their meanings. In early childhood, children develop an expansive understanding of meanings for words they hear others use, and how to use these words to talk with others. Learning vocabulary is critical in early childhood, because the more words (and their meanings) children know, the better they are able to understand or comprehend conversations or text. This knowledge also affects how much they can express their understandings and ideas. Research has shown that children's early vocabulary acquisition predicts their overall academic achievement later on.

Unfortunately, not all children have an equitable chance to learn the Standard English vocabulary that is related to school success. For example, they may have limited access to books, a lack of shared reading time with parents, or limited exposure to advanced words through oral language in their environment. Thus, explicitly facilitating vocabulary learning in early childhood is important to support children's vocabulary acquisition and academic success. This entry provides information about how children develop vocabulary knowledge, why facilitating vocabulary in early childhood classrooms is crucial, and how to facilitate it.

How Children Develop Vocabulary Knowledge

Children learn words and meaning through exposure to words used in their environments, such as

the words used in conversations, in TV shows or movies, and in books that are read to them. The more clues that are available to help children figure out these words' meanings in the contexts in which they are presented, the more children learn about their meanings. In fact, children generally learn about words' meanings over time by being exposed to them in multiple meaningful contexts.

When children are first exposed to a word, they may gain a partial understanding of the word's meaning, such as understanding that *conniving* is something bad. Then, after hearing the word used again they may gain a deeper understanding of its meaning, such as that it is a kind of trickery. Eventually, children will become able to use the word appropriately and explain what it means to others. However, vocabulary learning is idiosyncratic. Sometimes children hear and retain a word used just once in a very meaningful context; other times they may hear a word many times and not attend to its meaning at all. This is related to children's *word consciousness* (i.e., noticing new words and wondering about their meanings), which facilitates learning new words and their meanings.

Why Facilitating Vocabulary Development in Early Childhood Classrooms Is Crucial

Children from varying socioeconomic and linguistic backgrounds encounter vocabulary in different ways within their family environments. They may hear different types of words (e.g., Standard English words versus words in other languages or dialects), different numbers of words (i.e., more verbalization versus less), and differing complexities of word usage (e.g., words embedded in complex sentences with clues to new words' meanings versus words used in less complex ways). This can result in stark differences in the number of Standard English words for which young children know meanings, as well as how much they know about the words' meanings (i.e., their *depth* of knowledge about the meanings for a word).

These differences increase exponentially throughout schooling, creating what many refer to as a gap in vocabulary knowledge. Because

knowing Standard English word meanings affects comprehension of texts and textbooks, as well as orally presented content, the vocabulary gap in turn creates gaps in children's reading comprehension and overall academic success. To close these gaps, the field of early childhood education has paid increasing attention to facilitating vocabulary learning as soon as children enter school.

How to Facilitate Vocabulary Learning in Early Childhood

There are five well-accepted, research-based ways to support vocabulary learning in early childhood: (1) provide exposure to vocabulary words in meaningful contexts, (2) teach vocabulary-learning strategies, (3) directly teach vocabulary meanings, (4) provide opportunities to use newly learned vocabulary, and (5) teach thematically to provide multiple opportunities to learn vocabulary. Teachers should strategically choose an approach that works well for particular words and contexts, but in general, multiple approaches should be integrated for vocabulary instruction. Also, when it is important to learn certain word meanings well, those words should be instructionally revisited using multiple approaches.

Providing Exposure to Vocabulary Words in Meaningful Contexts

There are many ways to expose children to new vocabulary—through reading books, watching TV or movies, and having conversations with them. Picture books are often an excellent source of vocabulary words that are embedded in meaningful contexts. High-quality educational TV shows or movies often offer the same advantages as books, plus animation that may further help to clarify vocabulary meanings, if designed thoughtfully. Adults often use simpler language with children than they do in their writing or conversations with other adults. However, if they recognize the importance of exposing children to new vocabulary, then they can integrate it into their conversations with children in purposeful ways. Using new vocabulary in conversations when discussing a

book or movie, talking during a shared activity or experience, or responding to children's queries provides a highly relevant and meaningful context that can support vocabulary learning.

Generally, children are more likely to learn new words that represent familiar concepts (e.g., *gleeful*, which represents the familiar concept of happiness) through simple exposure, and less likely to learn both words and meanings for new concepts (e.g., *omnivore*) that way. When children encounter new concepts, it is better to teach these words and meanings directly.

Teaching Vocabulary-Learning Strategies

To facilitate children's learning of vocabulary words and their meanings from the variety of contexts in which they encounter them, children must first learn to be word conscious (i.e., to notice new words). Second, they must be able to use any clues about the words' meanings that are provided in these contexts to decipher words' meanings. Many children may need a model and guided practice to facilitate their noticing and using context clues to construct potential meanings for vocabulary words. However, it is important to note that some contexts do not provide any clues that help a child decipher a word's meaning. Thus, children should learn that using context clues is not always possible. Despite this, teaching children to notice available clues and use them to construct relevant meanings for words is an important skill that can improve vocabulary learning.

Overall comprehension of a story or event is also critical to learning vocabulary meanings from context. When children understand the overall context in which a word occurs, they are more likely to decipher a meaning for the word. Thus, helping children understand what is going on in the story aids them in learning new vocabulary.

Directly Teaching Vocabulary Meanings

There are many ways to directly teach vocabulary to children, from quick and simple methods to more complex. First, asking children to repeat a new vocabulary word out loud helps them develop

a memory of the word's sound, or a *phonological imprint*, which facilitates the recall of the word. To help children connect new vocabulary words with their related concepts, pointing to pictures or props that represent the concept, and then saying their name, can help to develop an initial understanding of the word's meaning. To support a slightly more developed understanding of a word's meaning, this can be briefly explained in child-friendly language when it occurs in context. For developing slightly more nuanced understanding, multiple examples of the word's use in context can be presented at the end of an activity, after the brief explanation or pointing and labeling.

Although the methods mentioned take up an increased amount of instructional time, they usually also result in increasing depths of understanding about vocabulary meanings. Choosing a method depends on the depth of vocabulary understanding that is needed, and whether or not additional opportunities to continue to develop understanding of a word's meaning are provided subsequently. Reencountering vocabulary used in context over time reflects the natural learning processes, and when this is possible, more in-depth instruction may not be necessary. However, when understanding a word's meaning is crucial to understanding the activity at hand, a method of instruction that supports deep-enough learning is important.

Vocabulary should be selected for direct instruction of meanings when it (1) reflects a new concept, (2) is important to understanding the story or activity in which it occurs, and (3) is usable by children in their future interactions or activities.

Providing Opportunities to Use Newly Learned Vocabulary

Knowing what a word means when it is heard used in context, or receptive vocabulary knowledge, precedes a child being able to use that word meaningfully himself or herself (i.e., expressive vocabulary knowledge). Once new vocabulary has been presented or taught to children, it is important to build a bridge between receptive and expressive vocabulary knowledge by providing

meaningful contexts in which children can use these newly learned vocabulary words. One way to check children's learning of vocabulary words and their meanings is to ask questions to elicit either their use of a vocabulary word or an explanation of its meaning. This should occur within a meaningful context, such as a story or activity.

Once children have learned a vocabulary word, it is important to engage them in activities in which they can use these words themselves. One popular activity that provides opportunities for children to use newly learned vocabulary meaningfully is the reading of texts that embed the newly learned vocabulary concepts in their illustrations. Another option is having children tell stories related to a curricular theme to provide an opportunity to use newly learned vocabulary, and then having children act them out or having an adult write them down for the children.

To further enhance both vocabulary use and knowledge of words' meanings, concept mapping provides opportunities to use words, discuss their meanings, and represent interrelations between words' meanings in a tactile way. Concept mapping uses physical spaces for representing concept relationships visually. The external representation of vocabulary meanings and how they are related supports children's mental organization of vocabulary words and their meanings, which helps retention. Likewise, inquiry projects provide children with opportunities to use new vocabulary as well as deepen their understandings about the words' meanings through active engagement in meaningful learning contexts.

Teaching Thematically to Provide Multiple Opportunities to Learn Vocabulary

Many successful early childhood vocabulary interventions have used thematic teaching as a way to cycle multiple exposures to vocabulary words targeted in the curriculum. This approach allows for reteaching or reexposing children to words across multiple read-alouds and other classroom activities across the day. Further, as children gain a deeper understanding of the theme, this general understanding helps facilitate children's use of

vocabulary-learning strategies. In turn, this leads to more and deeper vocabulary learning. Thematic teaching also provides opportunities to learn inter-related words and meanings through activities such as concept mapping and inquiry activities.

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See also Early Intervention; Early Literacy Development; Language Development; Read-Alouds; Storytelling and Story Acting

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WALDORF EDUCATION

The first Waldorf education program commenced in 1919, in interwar Germany, after the Waldorf-Astoria cigarette factory in Stuttgart invited Dr. Rudolf Steiner (1861–1925) to help launch an autonomous grade school for the factory’s workers’ children—one as free from state interference as possible. This school, and those that followed, offered a curriculum rich in the arts, heavy on experiential learning, and light on summative testing.

Waldorf pedagogy has its roots in anthroposophy, a holistic philosophy that Steiner developed after contemplating the thinking of Johann Wolfgang von Goethe and Rosicrucian and Theosophist ideas. Often defined as “the wisdom of humankind,” *anthroposophy* offers a path to self-development resting on the assumption that a nonmaterial or spiritual universe interpenetrates and informs the material one.

Anthroposophy is not taught in Waldorf schools but it does permeate Waldorf pedagogy. Indeed, Waldorf teacher training programs offer a core curriculum of anthroposophical material written by Steiner. Moreover, teachers are expected to engage in self-development or “inner work” through artistic pursuits and meditative or spiritual exercises. These are meant to strengthen self-knowledge and thus the ability to be a good role model to children as well as to build intuitive skills and be receptive to new ideas relevant to

one’s students. Teacher training programs also focus on patterns of child development, curricula for different ages, and ways to understand and assist individual children in the task of becoming their embodied, individual, human selves.

Stages of Development

Waldorf education recognizes thinking, feeling, and willing as central to child development. These modes of engagement develop together, but in a staged way: Teachers believe that children grow in 7-year phases, and during each phase, one mode predominates developmentally. Therefore, during different phases of childhood, different pedagogic approaches should dominate too.

In the first 7 years, the will is developing most strongly. It is said to do so through physical activity. Education in the early years should therefore be play based and experiential, not intellectual. Young children’s premature engagement in abstract logic, teachers say, will harden and damage the organism and lead to inflexible thinking in adulthood.

The development of feeling comes to the forefront in the next phase of childhood: ages 7 to 13. To support the development of the feeling mode, lessons during this phase are permeated with the arts.

Between 14 and 21, the development of thinking predominates. Adolescents should be actively engaged in understanding the world in abstract ways.

Facilitating the Flow of Play

Waldorf early childhood educators focus on providing appropriate environments for the will's development—environments that facilitate as much whole-body and make-believe play as possible. Play entailing movement not only builds the will; it allows children to fully develop proprioceptive, balance-related, and gross and fine motor skills—upon which later learning will depend. Sweeping, for example, allows children to master crossing the vertical midline, key to the kind of right-left integration that skillful writing (which comes later) demands. Exercising the capacity for make believe, said to emerge at about age 3, helps pave the way for healthful imaginative and, later, abstract thinking.

Ideally, schools have lots of outdoor space, and as much time as possible is spent outdoors. Children play with natural objects (e.g., stones, stumps, sticks, water, sand) or with props supporting whole-body engagement (e.g., shovels, buckets, wheelbarrows, watering cans). There may be swings or a play structure, but teachers let children develop the strength to master such equipment themselves rather than lifting them onto high bars and the like.

Indoors, rooms have simple wooden furnishings, often with rounded corners and sides that curve and curl; baseboards are cut in undulating patterns. Even the corners of drawing paper are trimmed by teachers to be rounded. Walls are “lazed,” with several thin coats of colored glaze that are lighter at the top, giving the surface an airy, uplifted feeling. For early childhood the preferred color is warm pink or peach. As a whole, a room's billowy curtains, lazed walls, and curves are said to help students maintain healthful expansion and growth. This form of décor thus helps protect against premature bodily hardening and the related ills and rigid thinking that, teachers say, will manifest in adulthood if children are subject to sharp stops, architecturally induced or otherwise.

Much classroom furniture is meant to be moved about and even used for construction, for instance, as children playing freely build houses, boats, riverbanks, and even mythical creatures. Natural objects and simple, hand-crafted toys

without prefabricated media-based story lines are provided according to child age. There may be plain dolls, pinecones, river stones, blocks made from a tree branch, play tools, and wooden food and dishes. The naturalistic containers for such props (e.g., baskets) also may be played with. There may be silk cloths and blankets for draping over upturned chairs. In addition, teachers provide verbal “pictures” of activities to the children with the aim of stimulating and sustaining free-flowing imaginative play (e.g., “It's cold; will you sew a coat?”).

Leveraging Children's Imitative Impulse

Teachers are role models for students who, in early childhood, are said to learn through imitation. First, children imitate attitudes, so that when teachers focus on work they have to do in the classroom, such as cooking oatmeal/porridge for a snack, the children in turn become more focused on their play.

Children imitate actions also. They are said to be drawn to the practical work of the teachers: chopping vegetables for soup; kneading dough for bread; cleaning, sanding, and rewaxing wooden toys. Teachers demonstrate; children follow. Outdoors, children follow teachers in watering plants, sweeping walkways, and so on. Often, the child who is having trouble getting started playing can be drawn successfully into practical work in the interim.

Rhythm

Instead of articulated instructions, early childhood teachers induce order through classroom rhythms. Children are said to gain security through such predictability. Days alternate between quiet, introspective moments or “in-breaths” when children are inwardly concentrated or focused on the teacher, such as during story time, and longer phases of expansive activity or “out-breaths” (children's capacity for an inward focus will increase as they grow). The respiratory terminology reflects teachers' understanding that breathing connects our inner world with the outer world.

Salutogenic Pedagogy

The loving, warm, predictable setting created by Waldorf early childhood educators supports children's successful development, fostering the natural and thereby healthful "unfolding" of that which lives within each child. Keeping children in play helps the body sustain healthful organ growth and expansion. Through whole-body movements, play fosters the child's "incarnation" and sense of being "at home" within his or her body, supporting the sensory-motor integration necessary for learning to write and so on. Play also aids in cultivating the will and the imagination, both necessary precursors for success in grade school and beyond.

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See also Child Development and Early Childhood Education; Child-Initiated Play; Determinants of Child Development; Free Play, Importance of; Imagination; Movement Education; Play, Benefits of; Reflective Practice; Selection of Furniture; Setting Influences on Child Development

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WARM AND RESPONSIVE INTERACTIONS

Although successful caregiver–child relationships include many components, the most central component is predictably warm and responsive interactions—reactions that are consistent, prompt, contingent, appropriate, and in support of the child's needs. The ability of a caregiver to interact with the child in predictably warm, responsive ways is crucial because the moment-to-moment interactions accumulate to shape the child's expectations, behaviors, schemas, and developmental progress. Underlying the formation of warm, positive relationships is layer upon layer of sensitive, responsive interactions over some extended period of time.

Historical Background

Attempts to parse out the sequences, functions, and outcomes of caregiver–child interactions are relatively new, beginning perhaps with William James, who, in the late 1800s, studied innate social response systems. Psychoanalytic theorists from the 1940s onward, through an object-relations prism, believed that social mirroring shaped children's self-concepts, including their perceived worthiness for love and a later ability to show kindness to others. Developmental psycholinguists beginning in the 1960s advanced understandings about the importance of infants' prelinguistic communications and how caregivers' ability to correctly interpret and respond in a preverbal dialogue predisposes the child to language acquisition. In the 1970s and 1980s, social mediation researchers noted that sensitive caregivers complement and extend children's capacities in the zone of proximal development, so the child develops cognitively and in culturally meaningful ways. In each of these frameworks, theorists considered early social interactions central to children's emotional, social, cognitive, and language development.

John Bowlby and Mary Ainsworth raised the importance of caregiver–child interactions to signature salience through their work on attachment

theory from the 1950s to 1980s. The World Health Organization (WHO) commissioned Bowlby, working in London, to study the mental health of orphans in the wake of World War II and published the seminal monograph in 1951. It revealed the deleterious effects of institutionalization on young children, showing how interaction-deprived children go through phases of protest, despair, and detachment. Bowlby's conclusion was that in order to develop normally, "the infant and young child should experience a warm, intimate and continuous relationship with his mother (or mother substitute) in which both find satisfaction and enjoyment."

He and early collaborator Ainsworth, whom he hired for his research unit examining the effects of separation on personality development, jointly observed that it is through the quality of interactions within a relationship that young children develop expectations about how people would behave toward them, in turn shaping children's responses in a self-perpetuating cycle. Through work in Uganda and later Baltimore, Ainsworth further developed the sensitivity-responsivity theory of attachment, wherein children are observed to have secure attachments with caregivers who interact in warm, caring, sensitive, and responsive ways, and insecure (insecure-avoidant or insecure-anxious) or disorganized attachments when caregivers seem inconsistent, rejecting, detached, or frightening.

Much cross-cultural evidence supports the substance of attachment theory. Critics, however, find that attachment theory embodies too narrow a view of children's interpersonal experiences and fails to take adequate account of children's temperaments. They also suggest that there is insufficient evidence supporting the specific dimensions of interactions that contribute to attachment classifications.

Defining Warm and Responsive Interactions

Although critics say that the concept of warm and responsive interactions is fuzzy and hard to operationalize, others say it is easy to recognize when one sees it. Researchers have observed that positive

interactions contain and convey mutual engagement, matched behaviors, and synchronized emotions. Adults express availability, affection, empathy, encouragement, support, and guidance, and children, depending on developmental status, may display attention, a state of calm, engagement, brightening, social referencing, and delight. Children in positive-interaction relationships begin to coordinate awareness and interchanges with the adult and have a secure base from which to explore the environment and interact with others—thus building social-emotional and cognitive foundations on which further development can occur.

Sensitivity and Responsiveness

Researchers have identified two fundamental qualities that are central to positive interactions: sensitivity and responsiveness. These abilities enable an adult to recognize and correctly interpret a child's signals, and respond in synchronous ways that meet the child's needs.

Sensitivity has emerged across cultures and population types as a critical dimension of positive interactions. An adult who is sensitive is capable of seeing the child as separate from herself and seeing the world from the child's point of view. It allows an adult to recognize basic signals for what they are, such as fatigue, distress, or hunger, rather than imposing a self-oriented or norm-referenced interpretation. For example, an attentive caregiver realizes a baby's fussiness is because he is hungry, regardless of the fact that he just ate an hour ago or that it is "the wrong time" for a meal.

Responsiveness refers to how promptly and appropriately the caregiver reacts to the child's signals or communications. It captures how attuned and reciprocal a relationship is. Responsive adults have an empathic awareness of how a child wants to be related to in the moment and are able to carry that out appropriately. Responsiveness contains constructs of predictability (the adult can be relied upon to react empathically), contingency (the adult responds according to the child's signals), and emotional availability and positivity (the child perceives that the adult wants to engage with the child and will do so with warmth, affection, and support).

Mary Ainsworth and colleagues cited four components related to sensitivity and responsiveness:

1. Awareness of signals—which requires an appropriate physical proximity to the child
2. Accurate interpretation of signals—which requires emotional awareness and ability of the caregiver to not project, interfere, or deny what the signal means, but rather to be attuned, empathic, and emotionally available
3. Appropriate responses to child communications—which requires developmentally appropriate reactions, such as picking up and comforting a distressed infant or letting a preschooler run off and play with a friend
4. Prompt responses—the adult’s reaction is perceived to be contingent on the child’s communication and supportive to the child

An important contribution of sensitive, responsive caregiving is the ability to refrain from interactions when the child needs a recovery period or independence.

Negative Interactions

Conversely, negative, negligent, and harsh interactions are likewise recognizable and useful as a comparison. In negative interactions, an adult may

- scowl, speak with annoyance or hostility, shout, criticize, shame, blame, be sarcastic, or call the child names;
- fail to respond to the child’s vocalizations, engage with the child, or make eye contact; ignore the child eating, dressing, or playing; and mainly focuses on other people or activities, such as other adults or electronic devices;
- be physically absent or fail to provide adequate supervision;
- not show enthusiasm or joy with the child, fail to take pride in accomplishments, or is businesslike or mechanical;
- be intrusive and overly controlling, perhaps hurrying children, overstimulating them, or

forbidding them to do many activities even when they are developmentally appropriate; or

- be physically harsh, such as grabbing, hitting, or pinching children.

Children’s Signals and Reactions

Interactions by definition are bidirectional, and children can play an important part in the quality of interactions. A child’s ability to express emotional states in a clear and consistent way impacts adults’ interpretation and responsiveness. For example, an infant who cries when hungry and smiles when happy is easier for an adult to understand than an inconsistent infant. An underdeveloped infant who perhaps has an immature neurophysiological system may have erratic states and less synchronized motor systems; he may smile one minute and be fretful the next without obvious triggers. Motivated and skilled adults can have warm, responsive interactions with any child, but it may take more work with less developed and less skilled children.

In general, as infants grow into toddlers and children, they display affect that mirrors the state of their interactions. A child who typically experiences responsive interactions readily makes eye contact, attempts to engage and imitate the person, anticipates engagement with smiles and brightening, wants to be physically close to the adult, expects help if a problem arises, initiates communication, and expects a response. The child wants to share a positive or negative experience, uses the adult as a secure base and looks to the adult for guidance and feedback, is distressed by separation, and may be wary around strangers. In contrast, a child who experiences negative interactions whimpers, shows anger, anxiety, avoidance, or other negative emotions and can be passive, detached, nonsocial, or mechanical. Even in the presence of responsive adults, interaction-deprived infants are less attractive to adults, cry more and more monotonously, and elicit less positive feedback from caregivers.

Functions and Mechanisms

Robert Bradley and Bettye Caldwell in 1995 identified the following five interconnected functions addressed by caregiver–child interactions:

1. Sustenance: provision of food, shelter, and basic biological support
2. Stimulation: engaging with a child; providing appropriate types of experiences and amounts of information; and fostering cognitive growth, curiosity, and a desire to explore and learn
3. Support: meeting social and emotional needs and reinforcing goal-directed behaviors
4. Structure: differentiating inputs depending on a child's ability levels and needs, scaffolding, and regulating stimulation so that each child experiences a good "fit" with various inputs
5. Surveillance: keeping track of the child's whereabouts and activities and ensuring a reasonably safe environment through supervision

The interactions also serve as mechanisms that impact children's development, including (a) priming of a child's responses to the environment in neurophysiological and psychological ways (e.g., repeated negative interactions require a child to self-regulate to mitigate negative affect), and (b) development of internal working models or mental representations—the child learns to expect all adults to be uncaring and stops seeking assistance or learns to expect warmth and assistance and therefore solicits interaction. These mechanisms lead to self-reinforcing chains of consequences.

Interactions in the Classroom

In most cultures, more than one adult has a loving relationship with a child. Teacher figures, whether in formal programs like a classroom or informal arrangements like kith and kin care, play an influential role in many young children's lives. The more experience the child has with positive interactions, the deeper the child's sense of security, self-worth, and empathy.

The quality of teacher–child interactions has been noted as central to program quality, child development, and outcomes associated with program experiences. For example, the National Association for the Education of Young Children

(NAEYC) from the 1980s onward has articulated that teacher–child relationships are at the heart of program quality and child outcomes, noting that positive relationships based on positive interactions are essential for learning and development, development of personal responsibility, self-regulation, and constructive interactions with others, all of which relate to classroom and general functioning.

Many organizations work to support teachers of young children to have warm, responsive teacher–child interactions, such as the Center on the Social and Emotional Foundations for Early Learning (CSEFEL), the Center for Advanced Study of Teaching and Learning (CASTL), the National Training Institute for Child Care Health Consultants housed at the University of North Carolina at Chapel Hill, UNICEF, the World Bank, Save the Children, World Vision, and Plan International, to name a few.

Associated Child Outcomes

The type of interactions children experience with important caregivers cumulatively shape their development in every important domain.

Brain Development

Warm, responsive interactions play a uniquely powerful role in caregiver–child relationships because they partially determine how a child's brain develops. The architecture of the brain takes form in response to the presence or absence of expected social inputs, among other things, and in response to the quality of those inputs. Synapses develop in and solidify with repeated use, and brains exposed to repeated positive interactions develop and strengthen pathways built upon those interactions. Children seek the types of experiences they have come to expect based on the most used and more developed neural pathways, thereby reinforcing early connections.

Survival and Physical Health

Infants who have responsive caregivers are simply more likely to live beyond the first month of life. Caregivers are the gatekeepers of children's health as they determine the amount and type of nutrition

infants take in; physical comfort experienced; likelihood of illness and injury; and the initial emotional support and assistance infants receive, such as being smiled at, held, and talked to. Infants of less sensitive and responsive parents are more likely to have low birth weight, show failure to thrive, be malnourished or stunted, experience recurrent infections, and be subject to neglect and abuse.

In contrast, responsive caregivers provide adequate nourishment, protection from toxins and dangers, physical warmth and safety, and interaction, allowing children to survive, gain weight, and grow. Growth at age 2, for example, is predicted by ratings of maternal warmth and responsiveness at 9 months. Children who have sensitive caregivers are also more likely to experience medical checkups and receive immunizations than others, and more likely to have speedy recoveries from illness. They are more likely to have predictable daily routines that promote a sense of security and to experience less stress than children cared for by less responsive caregivers.

Social and Emotional Well-Being

Children who typically experience positive interactions have healthy relationships with their primary caregivers. They are likely to become people who have insight into others' feelings, needs, and thoughts, forming a foundation for cooperation and conscientious behaviors. They learn how to share, take turns, and self-regulate. They play well with others, develop friendships, and show fewer problem behaviors and higher social skills than other children. They are less likely to experience peer rejection, shyness, and externalizing behaviors such as aggression and acting out. Caregiver responsiveness associates with children's sense of self-competence and self-worth, interest in exploring, communication skills, and sense of security. As adults, they are more likely to develop warm, responsive relationships with other adults and be more confident and assertive.

Cognitive Development

Interaction quality impacts cognitive growth through exploration and stimulation experiences.

Children's experiences with warm, responsive interactions correlate highly with cognitive skills and academic achievement. Teacher displays of strong emotional support to students relate to growth in students' phonological awareness, reading ability, and math achievement, for example. At-risk young children display fewer attention and academic problems than similar peers if they have strong emotional support from teachers. At-risk children with less supportive teachers show lower achievement levels and more conflict with teachers. More generally, children having extended experiences with positive interactions with parents or teachers, compared with others, have better concentration and show better language development, higher school readiness ratings, better performance on IQ testing, greater engagement and achievement in school, and enhanced thinking and reasoning skills.

In the Absence of Warm, Responsive Interactions

Compelling evidence for the need for positive interactions is seen in children who do not experience them—those who are deprived of extended loving care for some reason. Reasons include institutionalization, external conditions like extreme poverty or low adult education that hinder caregivers' capacity to be sensitive and responsive, internal conditions like maternal depression, or triggers such as child impairment that challenge caregivers.

Institutionalized infants are often listless, emaciated, relatively immobile, quiet, and unresponsive; seem unhappy; have poor sucking responses; lack appetite; sleep fitfully; fail to gain weight adequately; are withdrawn—and have higher mortality rates. They often become children who show indiscriminate attachment and friendliness, clinginess, and attention-seeking behaviors. Early institutional care correlates with higher than average risk of serious infectious illness, delayed language development, and reduced cognitive abilities. These children become adults who are more likely than others to live in poverty, have psychological impairments, and have difficulty finding and keeping employment.

Measuring Interaction Quality

Despite the theoretical importance of and empirical support for the importance of caregiver–child interactions, there are relatively few measures that focus specifically on interaction quality. One of the early research methods for quantifying interaction quality between caregivers and children was Ainsworth’s Strange Situation, which she used to decode how securely attached a child felt to the primary caregiver.

In more contemporary research, the Home Observation for Measurement of the Environment (HOME) Inventory and the Infant/Toddler Environment Rating Scale/Early Childhood Environment Rating Scale (ITERS/ECERS) are widely used measures. However, both capture overall quality of the environment and include many constructs in addition to caregiver–child interaction quality, such as the safety and furnishings of the physical facility, the availability of toys and materials, staff support, and so forth; thus, it can be inappropriate to equate high scores with high-quality interactions without examining subscores. Other measures include the Classroom Assessment Scoring System, the Caregiver Interaction Scale, and the Caregiver–Child Social/Emotional and Relationship Rating Scale.

Interactions Matter Across the Lifespan

The more skilled is the adult in his or her interaction abilities, the more solid are a child’s chances not only of survival but also of healthy physical growth, developmental progress, and achievement. Although brain development provides unique opportunities for early childhood interactions to shape child outcomes, positive interactions matter across the lifespan and impact is not limited to the window provided in infancy or early childhood. People who do not experience sufficient warm, responsive interactions as infants or young children still benefit strongly from repeated loving interactions later in childhood and into adulthood if they occur in the context of significant relationships that extend over time. An overarching outcome of these interactions, according to Eleanor

Maccoby, is that children become competent, caring adults who function well in society. They are then able to provide sensitive and responsive care to the children they care for and teach as adults, extending the benefits across generations.

Heather Biggar Tomlinson

See also Emotional Development; Healthy Environments for Social-Emotional Development; Social-Emotional Competence; Social-Emotional Development

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WELLNESS MODEL FOR YOUNG CHILDREN AND FAMILIES

According to the World Health Organization, health is “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.” Wellness is much more than

physical health; it is essentially an ecological construct, encompassing the multileveled influences, both internal and external, within which an individual's lived experience unfolds.

Over the past decade, there has been growing awareness among parents, teachers, social service providers, and medical and mental health professionals of the primacy of the young child's wellness in predicting prospects for healthy development and functioning in the long term. This awareness has been coupled with the recognition that the wellness of young children and the wellness of families are inextricably intertwined. Family experiences and resources shape the opportunities for wellness promotion that are available to young children, and lay the foundation for young children's healthy development. Grounded in a holistic perspective, the wellness model highlights the many interwoven personal, familial, social, cultural, and economic factors that combine interactively to define the well-being of children and their families.

The model transforms traditional conceptions of wellness as simply the absence of disease or medical problems into proactive models for promoting and sustaining well-being. The wellness model places emphasis less on specific behaviors and more on general lifestyle goals and choices, and most important, it affirms the efficacy of children and families to make choices that promote wellness. The model affirms that wellness is a social good and that a healthy and just society is defined by its capacity and commitment to affording all its citizens opportunities to grow and develop in ways that fulfill their potential for well-being.

Challenges to Wellness for Young Children and Families

Evidence has mounted regarding challenges to young children's well-being across many domains. Childhood obesity has been described as an epidemic, rates of associated disorders such as early onset diabetes have grown substantially, and food insecurity among families with young children has risen to record levels. Reports of stress-related symptoms in young children, including anxiety, depression, and post-traumatic stress disorder,

also have increased. Problems with emotional regulation and behavioral control are increasingly prevalent as well. A recurring finding in each of these areas is comorbidity—problems generally occur in multiple areas, rather than only in one. This comorbidity confirms the ecological nature of wellness as emerging from the ongoing intersections of multiple internal and external influences on young children and families. When a young child is sick or troubled, the functioning of the family system is compromised by the demands placed on it by the child's condition. Conversely, constraints on families' socioemotional energy and their access to educational, economic, vocational, and community resources affect the wellness promoting options available to their young children. For this reason, efforts to improve long-term outcomes for young children and their families have begun to emphasize more holistic approaches. The United Kingdom, for example, has created a new professional certification, early years professional (EYP), that encompasses studies in child development, health, education, and social welfare.

Home Contexts of Wellness for Young Children and Families

The ongoing, everyday routines and interactions of young children and families in their homes shape and also embody their well-being. These shared early experiences have long-lasting impact on patterns of eating, physical activity, and emotional responsiveness and expression. They frame children's beliefs about specific health behaviors as well as their personal efficacy to make choices that promote wellness.

The long-term positive impact of three common household routines on child well-being was noted by Sarah E. Anderson and Robert C. Whitaker, who found that preschool-age children (1) exposed to regularly eating the evening meal as a family, (2) obtaining adequate nighttime sleep, and (3) having limited screen-viewing time were 40% less likely to be obese than those with none of these routines. While lasting on average only 20 minutes, family mealtime has been

described by Barbara H. Fiese and Marlene Schwartz as a “densely packed event” that has powerful developmental impact from early childhood through adolescence. For example, Dianne Neumark-Sztainer, Melanie Wall, Mary Story, and Jayne Fulkerson (2004) reported frequent family meals at home promote improved child nutrition and language development, and decrease the risk of eating disorders among adolescent girls.

The long-term influence of family experiences at home on the socioemotional dimensions of well-being has also been extensively documented. Patricia Kerig, Amanda Ludlow, and Charles Wenar (2012) highlight ways in which parental psychopathology is associated with compromised emotional development and general well-being in their children. Children exposed to harsh and punitive parental practices are more likely to manifest difficulties with emotional regulation and behavioral control, which frequently are associated with decreased academic performance. These early problems often are precursors of patterns of disruptive behavior and diminished academic achievement lasting through adolescence or beyond.

Links Between Wellness and Educational Achievement

Beyond the ongoing transactional processes between physical, cognitive, emotional, and social development and learning, wellness is connected to academic achievement through its links to school readiness. Wellness encompasses the “physical, cognitive, social, and emotional competence” cited by the National Association for the Education of Young Children (NAEYC) to define school readiness. NAEYC emphasizes the ecological nature of wellness, stating, “*readiness* includes ready children, ready families, ready communities, ready early care and education, and ready schools.” Wellness enables children to come to school with positive feelings, comfortable in their bodies and secure in their emotions and social surroundings. Operating from this safe base, children have the foundation for positive attitudes toward learning.

As the pace of family life has accelerated, family routines that support both wellness and school

performance such as regular patterns for eating, shared book reading, and sleeping have been eroded, and the levels of stress experienced by young children and their families have risen, with widespread negative consequences. Magdalena Janus and Eric Duku found that poor parent and child health are both related to lower school performance, especially for children living in poverty. Barbara H. Fiese, Craig Gundersen, Brenda Koester, and LaTesha Washington documented associations between food insecurity and children's short- and long-term physical health, psychosocial well-being, and academic achievement, and Marcus B. Weaver-Hightower described "nutritional confounding" of children's test performance due to the effects of their health status and general well-being.

Promoting Wellness for Young Children and Families

Growing public concern about child health issues is reflected in Head Start/Early Start's Healthy Start resources, which emphasize connections between children's wellness and their readiness to learn, as well as in First Lady Michelle Obama's initiative Let's Move!, designed to encourage healthy nutrition and physical activity regimens. Although parents and teachers agree on the importance of wellness, many report feeling unprepared to address it with young children.

Home and school are the natural and primary contexts for promoting wellness for young children and their families. Wellness issues are the focus of many of the interactions between young children and their caregivers in these settings, and the responses that children receive to their questions and demands shape their understanding of what it means to "feel okay," "eat well," and "make good choices." Helen L. Johnson and Leigh Shebanie McCallen identified key principles to guide parents' and teachers' efforts to promote child wellness:

- Maintaining strong partnerships between families and schools ensures that children receive consistent messages that are respectful and inclusive.

- Framing wellness messages in a positive tone offers children information about behaviors that will support their wellness.
- Establishing explicitly health-oriented caregiving environments and processes supports children's capacity to make choices that will protect and promote their own well-being.

*Helen L. Johnson and
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See also Family Health; Healthy Choices and Young Children; Healthy Environments for Social-Emotional Development; Movement Education; Obesity Prevention; Physical Education

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WORK AND FAMILIES

The Bureau of Labor Statistics reports that in 2014, of 80.9 million families in the United States, approximately 80% have at least one employed member. A 2014 American Psychological Association study found that 60% of Americans perceived work as a “significant” or “very significant” source of stress. Social scientists refer to the relationship between work and family as the work–family interface. The spillover-crossover model has been used to examine the impact of the work domain on the home domain and the transference of work-related emotions from the employee to others at home and vice versa. The work–family and family–work enrichment models take into account the positive factors in one domain that enhance performance in the other. Positive well-being in either work or family facilitates integration and balance of both domains. Negative well-being can also contribute to segmentation and conflict between work and family.

This entry draws upon Urie Bronfenbrenner’s bioecological model to examine individual, meso-system, exosystem, and macrosystem relationships between work and family. While the literature on work and families is vast, the entry focuses on key findings vis-à-vis the bioecological model. It considers individual characteristics (e.g., gender, family composition, ethnicity, and socioeconomic status), mesosystem-level constructs (e.g., positive and negative work–family spillover, work enrichment, and health implications), and macrosystem factors (e.g., cultural influences, organizational and government policies).

Bronfenbrenner’s Bioecological Model

In recent years, social scientists have become increasingly concerned with the effects of social contexts on human development. This interest has been motivated, in part, by the emergence of theoretical perspectives emphasizing the impact of individual and contextual factors (e.g., gender, families, work) on development. The bioecological model emphasizes context; individuals and families are influenced by multiple contexts, as well as the relations among these contexts and how these interactions change over time. Also included is the concept of bidirectional effects and person-context interactions. Thus, the work–family connection can be viewed via the interaction of person, process, context, and time.

The bioecological model can be described as a series of concentric circles drawn around an individual. The circles each represent different systems that influence the individual’s development. Individual characteristics, such as a person’s gender, are considered at the core of the model. The innermost circle consists of an individual’s “microsystem,” those environments with which an individual interacts directly, such as immediate family and school or work environments. The next largest circle, the “mesosystem,” is conceptualized as interactions between microsystems, such as interaction between family and work environments. The next system, the “exosystem,” includes environments where the individual may not directly interact, but still exert influence on the individual. The exosystem can also be thought of as the microsystem of someone in the individual’s microsystem (e.g., a spouse’s or parent’s workplace). The “macrosystem,” or outermost circle of the model, encompasses global influences on an individual, such as government policies (e.g., family leave time), media, and cultural influences. The “chronosystem” is inherent across all systems within the model, indicating changes that occur during the passage of time. These temporal elements could include the birth of a child, for example, or a parent changing jobs because of incompatibility with family life.

Individual-Level Variables

Variations at the level of the individual, at the center of Bronfenbrenner's model, include gender, temperament, ethnicity, and socioeconomic status. Traditionally, greater responsibility for caregiving fell to women, and work-to-family conflict affected life satisfaction to a greater degree for women compared to men. A meta-analysis from the late 1990s reviewed decades of studies and concluded that life and job satisfaction for men and women are affected by both type and direction of these competing role dynamics. In the last decade, competing gender role dynamics have been equalizing and including fathers' balance of work and family life. Many studies regarding family composition and work examine two-parent middle-class households. Studies that have compared work stress between dual-parent households and single-parent households have identified even greater conflict between work and family for single-mother households. Since the percentage of single-father households remains small, little is known about them. In families with lower income, workers tend to have greater strains, increasing risk of injury and stress and less scheduling flexibility to support a work-life balance. Racial and ethnic minorities make up an increasing share of the U.S. labor force, but are underrepresented in work and family literature, so our knowledge base remains limited. Family structure and belief systems of minority groups likely create greater variation in the work-family interface than is available in our current understanding.

Mesosystem and Exosystem Levels

A review of recent research in work and family identified three themes: (1) external job demands and children's experiences inside families (exosystem), (2) nature and management of boundaries between work and family (mesosystem), and (3) linking experiences within families to both proximal (local supports) and distal (cultural norms) environmental influences (mesosystem and macrosystem). These underlying themes support the importance of identifying important work-family interactions via the bioecological model.

The spillover-crossover model emphasizes the impact of work on the home domain and vice versa through the transfer of well-being. The ways that well-being can be transferred is categorized into crossover and spillover. Spillover concerns the positive or negative well-being at the individual level across domains of work and family. Constraints that can cause interrole conflicts can be time based (e.g., not enough time to accomplish demands of both roles), behavior based (e.g., requirements of one domain interfere with expectations in the other), or strain based (e.g., pressure in one domain makes it difficult to engage in the other). An example of work-to-family spillover is an employee who works extended hours, compromising leisure time with family. Family-to-work spillover occurs where the pressures of a family role have an unfavorable impact at work. For example, an employee caring for an ill child may be chronically late or absent at work. Crossover, which demonstrates exosystem interaction, is when the transmission of well-being takes place between closely related persons through social interactions. An example is a parent who exhibits anger toward family members as a result of work stress.

Work-family enrichment, also referred to as work-family facilitation, refers to a process at the work-life interface where participation in one role (e.g., work) increases the quality or performance of the other role (e.g., family). The primary focus is on positive interface between work and family. Work-family enrichment can occur when work contributes to skill growth or positive mood changes that then have positive effects on family. A positive work environment, including points such as scheduling flexibility, job satisfaction, support from colleagues, and mastery of skills, contributes positively to work-family enrichment. Family-work enrichment can occur when participation in family roles (e.g., confidence as a parent) has a positive impact on work performance.

Boundaries are guidelines or rules that a person identifies as reasonable interactions with others or the environment. Work and family boundaries can control spillover from one domain to the other. Boundaries run on a continuum with segmentation (compartmentalizing work and family) on one end,

and integration (combining work and family roles) on the other. Integrators tend to keep weak boundaries (e.g., responding to electronic mail or accessing databases after work hours). People who fall in the middle move back and forth between integrating and segmenting their work and family domains (e.g., a retail worker who works long hours during a holiday season, neglecting family responsibilities, but then segments work and family time effectively other times of year). People who segment work and family have strong boundaries and consistently resist temptations to blend the work and family (e.g., resisting messages sent after work hours). Boundary management styles enhance an understanding of work and family interface at the mesosystem and exosystem levels.

Family relationships are influenced by the broader social environment. As an example of the influence of the exosystem, work environment can impact nonemployee members of the family. When an employee has strains at work, it can have a negative impact on both parenting and partner relationships. Parenting has been categorized into two dimensions: warmth (responsiveness) and monitoring (consistency). Children generally benefit most from high warmth and monitoring. Higher work conflict is associated with lower parenting warmth and lower monitoring, putting children at risk for being negatively influenced by parental work environments. Conflict in couples is linked to lower parent mental health as well as more negative parent-child interactions and child outcomes.

Workplace strains can manifest as health outcomes that impact both the employee and the employee's family members. Negative behaviors in the workplace have been linked to the health of both employee and spouse. Stress in the workplace has been commonly associated with employee depression, anxiety, and physical symptoms. Research in the last decade has examined men's job demands and found high work duties and emotional demands were positively associated with partner's reports of work-to-family conflict. Men's work-to-family conflict was negatively related to quality of spousal interactions; men exhibited decreased social support and increased social undermining. These connections were linked with

women's ill health, especially depression and physical complaints. High-conflict and emotionally demanding positions at work are linked with poor relationship quality and negative health outcomes. In contrast, jobs with both structural and psychosocial support have positive influences on employee well-being, engagement, and motivation.

Macrosystem Level

Effective government policies have been found to both reduce negative work-family spillover and enhance work-life integration. Caregiving conflict is one the greatest challenges of balancing work and family. Caregiving can affect work time, for example, if an employee takes personal leave due to illness or the care of others such as aging parents or children. The Family and Medical Leave Act (FMLA) of 1993 requires covered employers to provide job-protected and unpaid leave for qualified medical and family reasons. Research supports the importance of policies like FMLA to alleviate the stress of losing one's job as a result of an extended leave-of-absence for medical or family reasons. Such policies support the long-term commitment and work productivity of employees. The FMLA has been critiqued because the policy does not require paid leave. Paid leave is a decision left up to individual states and only a small fraction offer it. In a comparison of family leave policies worldwide, the United States falls short. The cost of raising children in the United States is tremendous; not having a paid leave option creates even more financial challenges for families who depend on dual wages to make ends meet.

Even though not required by law, there are many employer strategies to support their employees such as on-site child care, employee assistance programs (EAPs), paid family leave options, and nontraditional work schedules. Such programs can increase the perception of work-family gains and decrease work-family strains. Longitudinal research indicates that perceived work-family strains are associated with decreased work commitment, while perceived work-family gains are associated with increased work commitment. Research has also demonstrated links between

work–life balance employer strategies and organizational performance. Institutes like the Work, Family & Health Network recognize the mutual benefits of increasing employees' sense of control over their own time, improving supervisor support for work and family balance, and changing the culture to focus on work that matters most for the business. Even though employer policies rooted in these ideas have demonstrated benefit to employers as well as employees, the challenge continues in that more employers need to implement such policies in order to change the work–family culture in the United States. When employers strive for goals that benefit both employers and employees, policies will be more progressive than what is required by the government. Improving workplace policies is an ongoing process. Recently, some states have enacted laws requiring employers to offer a limited number of hours annually for parents to attend school-related activities for their children (e.g., California requires 40 hours; District of Columbia requires 24 hours). This indicates employers are beginning to recognize that work–life balance includes everyday life events, such as children's school events, and not just one-time events, such as the birth of a child.

Future Implications

There has been increasing research on the relationship between work and family, but there have not been corresponding advancements in reducing challenges of the work–family interface. Part of the barrier is making clear conceptual definitions including indicators that can be measured. Evidence-based solutions can help on all levels of Bronfenbrenner's bioecological model to create balance in work and family life, but strong research is important to determine their effectiveness. On a macrosystem level, many U.S. companies focus on profits. They are reluctant to help navigate the home lives of their employees as they disregard evidence that exists about higher productivity of employees who feel valued. For individual companies, it is easier to quantify the bottom line than employee satisfaction. Pro-work–family government policies and progressive

companies are in a position of power to influence changes that can achieve productivity and create space for employees to thrive in both work and family domains.

Miriam R. Linver and
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See also Bioecological Theory; Child Care Policy and Practice; Maternal Work Status; Parenting Effects on Child Development; Relational Power

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WORK SAMPLING SYSTEM, THE

Finding assessment tools that are developmentally appropriate for young children continues to be a significant challenge in early childhood education. Young children express and represent their thinking in diverse ways: dramatizing, drawing, painting, singing, scribbling and writing, and having conversations. They show what they know and can do with familiar tasks and people they know. The Work Sampling System (WSS) is a research-based, authentic assessment for children from preschool to Grade 3. This performance assessment system, and other early childhood performance assessments, allows teachers to observe and document children's learning as they engage in familiar classroom activities such as drawing, writing, reading, building, and conducting experiments and with familiar adults. This entry presents an overview of the WSS, information about its development, research findings, and a description of how teachers use the WSS.

Overview

The WSS gives teachers a comprehensive means of monitoring students' social, emotional, physical, and academic progress. The assessment is embedded in the curriculum but can be used with any curriculum. The WSS gives teachers clear criteria for evaluation and provides teachers and administrators with tools for summarizing, aggregating, and reporting data so that the assessment information can be used in a variety of ways for decision making.

The Work Sampling System: A Performance Assessment

WSS was developed at the University of Michigan by Samuel J. Meisels and his colleagues (Judy Jablon, Dorothea Marsden, Margo Dichtelmiller, and Aviva Dorfman) in the late 1980s. Originally conceptualized as an alternative to norm-referenced, standardized achievement testing for young children, WSS, a performance assessment, is designed to

show children's achievement by capturing demonstrations of knowledge and skills in classroom settings. Teachers document children's learning and behavior during ongoing classroom activities via observing, collecting work samples, and using rating checklists. In contrast with standardized testing programs, teachers assess young children in developmentally appropriate ways where children perform typical activities in comfortable settings with familiar people.

Development of the WSS began with defining learning expectations based on child development research, state standards, and information from national curriculum organizations. These expectations became the Work Sampling System Guidelines; children's performances were compared with these expectations, making the WSS a criterion-referenced assessment. A version has been customized for Head Start programs and the WSS has an online version.

The initial editions of the WSS focused on summative assessment: assessment that evaluates what children have learned at the end of a period of instruction. Teachers completed WSS checklists and portfolios three times per year and summarized their findings in the Summary Report, a document that replaced a traditional report card. These reports, designed to share with families, eliminated traditional grades, summarized a child's performance and progress, and gave teachers opportunities to write narrative comments about each student.

Over time, as the authors and staff developers collaborated with teachers, they began to see the WSS as an ongoing formative assessment that provided teachers with information to adjust their instruction and students with information about their learning. Unlike summative assessment, the use of formative assessment, especially giving accurate feedback to students about their learning, has shown positive correlations with gains in achievement. The WSS encourages opportunities for student-teacher interactions focusing on assessment and learning.

Research

A significant amount of research has been conducted on the WSS, by its authors, and by independent

researchers. Researchers investigated the validity of the system, teachers' ability to make accurate unbiased ratings, and family perceptions of the benefits of the assessment, among other topics. An early study of a pilot version of the WSS for kindergarten showed that the WSS predicted performance on the Woodcock Johnson-Revised, with correlations ranging from .67 to .76, even when factors such as gender, age, and initial ability were controlled. A cross-sectional study of 17 Title 1 classrooms, conducted in the Pittsburgh Public Schools, demonstrated that WSS ratings in literacy and mathematical thinking were moderately to highly correlated with results on standardized tests. In fact, the WSS was a stronger predictor of test scores than demographic variables. In addition, when students in WSS classrooms were compared with students in classrooms not using WSS, findings indicated that students in WSS classrooms showed more growth in reading than students in non-WSS classrooms, and more than the average growth shown by all other students in the district. These results indicate that the WSS is a valid means of evaluating student achievement and may positively impact achievement levels.

An independent researcher conducted a study of 1,281 students, the majority receiving free or reduced-price school lunches. WSS ratings of literacy and mathematical thinking in first grade predicted third-grade scores on a criterion-referenced, state-mandated test of math and literacy. Results indicated positive, moderately strong relationships across the 2 years for both subject areas. Again, even when demographic variables were controlled, WSS scores predicted later achievement. Finally, a study of a modified version of the WSS used in Minnesota with preschoolers indicated that WSS ratings on the Minnesota version predicted students' scores on the third-grade Minnesota Comprehensive Assessment in reading and math.

Several studies examined teachers' reactions to using the WSS and whether teachers make accurate unbiased ratings. Teachers reported high levels of understanding and implementation of the WSS. Other studies of first-grade teachers using the WSS found that teachers scored African American students lower than White students. However, ethnicity explained only a small amount of the variance in teachers' ratings.

Although only studied in one investigation, families reported that they were very satisfied with the WSS, and approximately two thirds preferred the Work Sampling Summary Report to receiving a traditional report card. Furthermore, parents stated that the WSS helped them understand their child's learning and that it helped children understand their own learning.

Because the fifth edition of the WSS has been recently published, research is just beginning. However, the process that guided this revision was careful and systematic. It involved four processes: (1) an alignment of the fourth edition performance indicators with current state standards and the Common Core State Standards for literacy and math to identify gaps in content; (2) an investigation of the difficulty of the fourth edition performance indicators; (3) review by a panel of early childhood curriculum experts to identify outdated and/or missing content; and (4) focus groups and surveys of current users to identify strengths and weaknesses of the WSS, and suggest revisions. Draft versions of revised materials were reviewed by current users and content experts.

The Work Sampling System 5th Edition

The Work Sampling System 5th edition is composed of two basic elements:

1. Guidelines and checklist. The guidelines describe expectations for children's learning at each grade level. The checklist is a tool to help teachers organize and record evaluative ratings of children's performance on an ongoing basis.
2. Summary reports. Three times each year, teachers summarize and evaluate children's performance and progress using the WSS version of a report card.

Together these elements of the WSS provide teachers with a comprehensive way of documenting and evaluating children's skills, knowledge, and behaviors in seven domains. A domain is a broad area of development. The domains addressed by the WSS are the following:

- Personal and Social Development
- Language and Literacy
- Mathematical Thinking
- Scientific Thinking
- Social Studies
- The Arts
- Physical Development, Health and Safety

Each domain is divided into subsections called components. The components are composed of a set of performance indicators. The domains and components of the WSS are intentionally consistent from age 3 to Grade 3 to foster dialogue among teachers about children's development and learning. To highlight the continuum of development, the Omnibus Guidelines show six levels of development in a two-page spread format. The performance indicators state the skills, behaviors, and accomplishments that are assessed in the classroom. Performance indicators define end of year expectations for each grade level by offering an explanation and examples in the guidelines. To illustrate the relationship of domain, components, and performance indicators, here is an example from one domain at the first-grade level:

Domain: Personal and Social Development

Components

- Self Concept
- Self Control
- Approaches to Learning
- Interaction with Others

Within the component of Self Concept, there are two performance indicators:

1. Demonstrates self-confidence
2. Shows initiative and self-direction

The Work Sampling System 5th edition is organized so that teachers can use the assessment cycle to guide them in the assessment process. Assessment is a cycle with four repeating steps, which are illustrated here with a scenario involving a story-telling lesson in kindergarten. The first step of

the cycle is to *ask questions*. When using the WSS, the performance indicators assist teachers in defining the questions to ask about children's learning. In planning a story retelling experience, Ms. Fox, a kindergarten teacher, looks at the domain of language and literacy, refers to the component of reading, and uses the performance indicators to shape the questions that guide her planning and observing during the lesson.

The second step of the assessment cycle is to *collect evidence*. As teachers interact with children individually and in small groups, they observe and document children's learning in order to collect evidence that answers their questions. During the story-retelling lesson, Ms. Fox observes to see what children understand about the structure of text and whether they can recount key ideas and details from the story. Based on what she notices as she watches and listens to children during the lesson, she begins to use the third step of the assessment cycle, *interpret evidence*. Ms. Fox sees that 5-year-old Leona independently folds her paper into three columns. Ms. Fox begins to interpret her observation or make meaning of it using what she knows from the WSS. She asks herself, "Is this an indication that Leona understands the structure of text—beginning, middle, and end?" Interpreting the evidence in this way leads Ms. Fox to the fourth step of the assessment cycle, *taking action*. Ms. Fox says: "Leona, I see you dividing your paper into three columns. I'm wondering what you are going to do next." Leona responds, "I'm going to draw what happened in the beginning here (pointing to the first column), then the middle and the end."

In this example, Ms. Fox uses the assessment cycle and the WSS as formative assessment—assessment for learning. Her knowledge of the WSS guides her questions and how she responds to children in ways that foster their critical thinking skills. Based on what she learns about children as she interacts with them, she can scaffold their learning in individualized ways.

Following the lesson, Ms. Fox reflects on Leona's work sample and the notes she has jotted and goes deeper with steps 3 and 4 of the assessment cycle. She interprets the evidence further and sees that the documentation she has collected during the lesson

not only tells her about what children know about story retelling but about performance indicators in several domains. As Ms. Fox studies Leona's work and that of other children, she takes action by planning subsequent lessons.

As illustrated in this scenario, using assessment, particularly the WSS, during teacher-child interactions allows teachers to learn about children and simultaneously provide individualized feedback and instruction. Teachers can share their observations with children and ask children about their learning. Children receive immediate and specific feedback based on evidence the teacher documented. Studying work samples enabled interactions focused on learning and next steps.

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See also Academics and Academic Assessment in Early Education; Authentic Assessment; Checklists and Rating Scales; Observational Assessment; Standards-Based Curriculum and Assessment

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WORKFORCE DEVELOPMENT

In the field of early childhood education (ECE), there are many employment possibilities. An individual might work directly with children in a classroom or as an administrator. Many of the positions in the classroom have titles that are used interchangeably depending on the region, program, or preference of the individual. For example, sometimes the term *teacher* is used to refer to the person who is responsible for classroom activities and routines while other times the term *care-giver* is used. Administrators could include midlevel managers, senior management, curriculum specialists, and training specialists. Because there are a variety of positions that could be held, when early childhood professionals talk about the professional development of workers at all levels they use the terminology *workforce development*.

Types of Professional Development

There are many ways individuals can prepare to work in the field of ECE. As will be discussed next, qualifications range based on location and type of program. Although some programs do not require much preparation to work with young children, research demonstrates that the experiences and outcomes for children are better when their teachers and administrators have more education related to their work with young children.

Formal Models of Training and Development

A Child Development Associate (CDA) credential is an endorsement by the national Council for Professional Recognition. A practitioner may apply for and receive this recognition after he or she completes 120 hours of training, completes 480 hours of professional experience with a targeted age group

of children, submits written evidence of his or her knowledge and skills, and passes an exam. The credential is valid for 3 years and then must be renewed. A CDA can be earned focusing on working with infants and toddlers, preschoolers, as a family child care provider, or to be a home visitor.

Some individuals who want to work with young children take college classes and earn a degree related to ECE. There are two general college pathways that prepare the workforce. Practitioners can take courses in a health and human development program (sometimes called health and family studies or child development and family studies) or courses in a teacher education preparation program. Choosing between the two program types depends on a person's long-term career goal as well as institutional differences in offerings. Typically, teacher education programs lead to state licensing certification, a requirement for some early childhood positions. However, variations at colleges or universities exist so that early childhood certification may be offered through a department such as human development and family studies. Both pathways require a minimum number of credit hours, successful completion of required courses and electives, and approved experiences working with children.

Traditional Models of Development

Another avenue for preparing and staying current with best practices in the field is through workshops and conferences. These can be face to face, online, or a hybrid of both. Stand-alone workshops are offered on specific topics. A series of workshops may be provided that build knowledge and skills over time. Sometimes a child care program will invite a qualified trainer to come to the program site and train all the staff together or at other times training is offered at a central location and specific staff are targeted to attend based on their position or need for further development. Conferences are generally an array of workshops offered on the same day or over several days that span a variety of topics. They are offered nationally or through a local or state early childhood agency or association.

Modern Models of Development

Many agencies promote and offer professional development through more individualized and personal methods. Coaching, mentoring, and reflective supervision are a few of the commonly used strategies. These methods allow a facilitator to work one-on-one or with a small group of practitioners to develop knowledge and skills. Advantages of these forms of development are the ability to customize content to the learners' needs, give specific feedback, and to work together over a span of time.

Qualifications

In the United States, minimum qualifications for all licensed positions vary by state. According to Child Care Aware of America's website, some states allow lead teachers to have less than a high school diploma or GED certificate while others require college degrees. Similarly, requirements to be a director of a child care center vary from state to state. Some states allow directors to have less than a high school diploma while some require college credits in ECE or a college degree.

Head Start, a federally funded and monitored program, has higher expectations for staff qualifications. They require that within a classroom, teachers have at minimum an associate's degree in ECE or a related field. In addition, nationally a minimum of half of all teachers in Head Start programs must have at least a bachelor's degree in ECE (or an advanced degree with courses equivalent to an ECE degree) and professional experience working with young children.

The National Association for the Education of Young Children (NAEYC) accredits high-quality programs. Programs can apply for accreditation after completing a self-study of their practices, policies, and procedures. One standard required for national accreditation by NAEYC relates to staff qualifications. To meet NAEYC qualifications, a lead teacher can have a CDA but must be working on a college degree. An administrator must have at least a bachelor's degree and targeted college coursework. When administrators do not meet those qualifications, they will submit a plan for achieving that

goal in 5 years or, alternatively, evidence that guidelines have been met through another pathway.

Many states are implementing quality rating and improvement systems (QRISs) that are designed to raise the quality of child care programs. QRISs typically include minimal staff qualifications for each tier of the system. For programs to advance to the next tier, staff qualifications must increase for both teachers and administrators.

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See also Accreditation; Coaching; Early Childhood Teacher Education; Head Start; National Association for the Education of Young Children; Paraprofessionals; Preservice Teacher Preparation; Quality Rating and Improvement Systems

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Child Care Aware of America: <http://www.naccrra.org/>

assistance, and policy advice to developing countries (i.e., low-income and middle-income countries). The name actually refers to two organizations that share leadership and staff: the International Bank for Reconstruction and Development (IBRD) and its concessional lending arm, the International Monetary Fund (IMF). Led by the United States and United Kingdom, a multinational group of governments created the World Bank in 1944 to create an economic architecture to help reconstruct and develop European countries devastated by World War II. Its goal quickly expanded to providing support to non-European countries, and its current goal is to eradicate poverty worldwide. It is one of five international organizations in the World Bank Group, is a member of the United Nations Development Group, and includes 188 member countries. It is considered a premier international development institution because of both its financial and intellectual prowess.

Education as a Poverty Reduction Strategy

The World Bank has multiple strategies to reduce poverty, such as improving a country's infrastructure, social services, or capacity in specific sectors such as agriculture or health. One of its major strategies to reduce the effects and rates of poverty is education. Its focus on education has increased in the 2010s, with financial support rising from \$1.8 billion in 2011 to \$2.9 billion in 2013, and technical assistance following suit. Notable education projects and partnerships include the Russia Education Aid for Development (READ) Trust Fund program, the Results in Education for All Children (REACH) program, and the Global Partnership for Education, for example. World Bank projects and assistance have led to positive impacts in the education domain, including reduced numbers of out-of-school children (from 105 million children of primary school age out of school in 1990 to 57 million in 2011), increased primary school completion rates (from 81% in 1991 to 91% in 2011), and increased enrollment rates in preprimary school.

WORLD BANK

The World Bank is an international financial institution that provides loans and grants, technical

Early Childhood Development as a Key, Multisectoral Investment

World Bank leaders are acutely aware of the unique challenges and pernicious ramifications of weak early childhood development (ECD) systems and the clear evidence of the benefits of investments in ECD. As such, ECD plays a critical role in the World Bank's overall education strategy. In 2011, the World Bank launched its Education Sector Strategy 2020, which sets the goal of achieving learning for all, and includes a distinct emphasis on early childhood development. The three pillars of the strategy are "Invest early. Invest smartly. Invest for all."

However, education is only one sector in which ECD plays a key role. It also features heavily in health, social protection, and other sectors. Scaling Up Nutrition (SUN), for example, has been a major health initiative focusing on children's first 1,000 days. In other words, the World Bank uses many entry points to impact ECD and improve outcomes for young children, including health care, hygiene, nutrition, parenting programs, child protection programs, conditional cash transfer programs, and early childhood education programs.

The World Bank is increasingly supporting ECD investments globally by financing programs, providing policy advice and technical support, and partnering with other stakeholders at country, regional, and global levels. The World Bank invested more than \$3.3 billion between 2001 and 2013.

ECD Program Implementation and Results

As a result of these efforts, effects are evident in countries around the world. In Haiti, for example, about 1.8 million families have access from 2013 to 2019 to maternal and child health, nutrition, and social services. In Vietnam, in a 2013–2017 program, disadvantaged 3- to 5-year-olds benefit from a school readiness program. In Mozambique, a 2012–2017 program will reach 84,000 children in 600 rural areas to improve early skills in cognitive, linguistic, social-emotional, and physical skills. Some projects have extensive reach

throughout an entire region, such as the Early Childhood Initiative: An Investment for Life that operates throughout Latin America, or the Early Learning Partnership program that targets assistance to sub-Saharan Africa. Overall, the World Bank implemented 273 ECD activities from 2001 to 2013.

SABER-ECD

The World Bank has long valued the importance of good measures, rigorous data collection, and evidence-based decision making to ensure results and accountability. Recognizing the particular challenges to policy makers in creating a strong early ECD system, given its multisectoral nature and the importance of coordinating with many stakeholders, the World Bank has created a new measure to improve countries' abilities to understand and improve their ECD systems. The Systems Approach for Better Education Results (SABER)-ECD collects, synthesizes, and disseminates comprehensive information on ECD policies and programs across different systems. Each participating country collects data to assess its progress toward three ECD policy goals:

1. Establishing an enabling environment;
2. Implementing widely; and
3. Monitoring and ensuring quality.

To do this, governments take stock of the programs already operating in their country, analyze information to evaluate the level of development of ECD policies, and identify options for strengthening their ECD policies, based on international comparisons. The World Bank does not rank countries based on their results but rather provides detailed guidance that the country can use to improve their system. As of early 2015, 15 countries had participated in the SABER-ECD process.

Partnerships, Competitors, and Critics

In addition to partnering with governments, the World Bank works in alliance with many organizations at many levels to impact education and

early childhood development in particular, including UNICEF, UNESCO, the World Health Organization, bilateral donor agencies, foundations, international nongovernmental organizations, and special groups such as the Consultative Group on Early Childhood Care and Development. Other international development agencies also aim to influence the global ECD agenda and compete for donor dollars, such as the Asian Development Bank, Inter-American Development Bank, and most recently, the Asian Infrastructure Investment Bank. Critics of the World Bank say it is a large bureaucracy and staff is too often appointed on the political whims of member states. They also suggest that current education strategies may connect too closely with the private sector, diminishing the responsibility of the state, and do not sufficiently account for how the various dimensions of poverty interface with learning conditions and local norms. Regardless, the World Bank is a critical player on the global stage in impacting ECD policies, investing in programs, and increasing demand for and capacity in developing countries to improve ECD services.

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See also Early Childhood Education; Policy and Early Childhood Education; Poverty Effects

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ZERO TO THREE

ZERO TO THREE is a national, nonprofit organization that focuses on promoting the well-being of children birth to 3 years of age. The mission of ZERO TO THREE “is to ensure that all babies and toddlers have a strong start in life” (ZERO TO THREE, n.d.).

History, Resources, and Services

The ZERO TO THREE organization was established in 1977 by a multidisciplinary group of mental health, child development, and health experts who were interested in addressing and intervening in issues impacting the optimal development of young children. ZERO TO THREE has now expanded into a comprehensive organization that plays major leadership roles in identifying and addressing key issues that impact the well-being of young children and their families. The organization has two office locations, an eastern office located in Washington, D.C., and a western office located in Los Angeles, California.

The information and services provided by ZERO TO THREE are multidisciplinary, collaborative, culturally responsive, and clinically informed. These resources and services are designed to promote an understanding of key societal, developmental, and

family issues that impact optimal outcomes for infants and toddlers. The multidisciplinary approach of the organization brings together the research perspectives of specialists from many professional fields. The specific type of research most relevant to the work of ZERO TO THREE are those studies that focus on the interrelatedness of all domains of child development (social, emotional, intellectual, language and physical) and the importance and impact of family on every child’s development.

ZERO TO THREE helps parents and professionals get information on education and intervention services for children and families that promote children’s overall growth, development, health, and well-being within the context of family and culture. The organization does not charge a fee for membership. Individuals, families, and professionals may join ZERO TO THREE through the organization’s website. The organization offers a variety of resources, including the following:

Fellowships

The Leaders for the 21st Century fellowship program offered by ZERO TO THREE is a national program that brings together professionals from a range of disciplines. The purpose of the fellowship program is to expand the participants’ scientific knowledge of early childhood and to provide leadership training.

Publications

ZERO TO THREE offers publications on research, practical resources, brochures, and other materials for individuals who work with infants, toddlers, and families. The publications address a variety of topics including normative and atypical child development, early care and education, early intervention, early literacy, infant mental health and trauma, parenting, and policy issues. Publications are also available in Spanish. In addition there are training resources and materials available.

ZERO TO THREE publishes a bimonthly (six issues per year) journal designed for use by early childhood experts, early interventionists, and child care professionals. The journal features evidence-based practices that impact the health and well-being of young children. It specifically focuses on topics that are relevant to professionals who work with children from birth to 3 years old and their families. A subscription fee is charged and a print or digital form of the *Zero to Three* journal is available. For an additional fee, professionals can earn continuing education units with each issue of the journal.

Training and Professional Development

The organization provides evidence-based informed training for professionals who work with infants, toddlers, and families. Professional development for trainers and practitioners working in early care and education, early childhood mental health, child welfare, and early childhood intervention are available.

Electronic Resources

The ZERO TO THREE website provides an extensive amount of information and resources designed for use by professionals, families, policy makers, and others. Most of these resources are provided at no charge and are available in multiple formats. Users of the website can sign up to receive a monthly newsletter and e-mails on specific topics and join the organization's policy network. The ZERO TO THREE Web-based information,

materials, and resources are designed around several broad topics relevant to infants, toddlers, families, and public policies. As of early 2015, the following topics and information were available on the ZERO TO THREE website:

Public Policy

The public policy section of the website provides information for policy makers on the developmental needs of infants and toddlers. It includes tools for effective advocacy and resources on building comprehensive early childhood systems, federal policy, infant-toddler policy issues, and state and community policy.

Behavior and Development

In this section of the website are resources focused on the behavior and development of infants and toddlers. It includes the following:

Little Kids, Big Questions. This is a series of 12 podcasts on early childhood development. The series focuses on common challenges and issues that parents of babies and toddlers may experience, such as crying and sleep. Each podcast features an expert who is interviewed about how research can be applied in daily interactions with a young child.

Brain Development. This section provides information on brain development during the first 3 years of life. In addition it offers information on how parents, caregivers, and others can help young children get a good start in life, which leads to lifelong learning.

Challenging Behaviors. The resources in this section focus on how to help parents understand and respond to challenging behaviors that young children may exhibit. Examples of some of the behaviors addressed are crying, aggressive behavior, and sleep.

Early Childhood Mental Health. This section includes resources focused on understanding infant and early childhood mental health and how to identify and treat mental health concerns.

Early Development. Information and resources about early development and what parents and others can do to support young children's development can be found here.

Health and Nutrition. Resources on a range of health issues are presented to help parents and others nurture young children's growth and development.

Mental Health Screening and Assessment. This section contains information for early childhood practitioners and parents who may be concerned about a child's development and also strategies they can jointly use to determine if a child has a developmental delay.

Play. How and why play is important for young children's development is the focus of this section.

Promoting Social Emotional Development. This section focuses on how social and emotional development occurs and how adults can support young children's healthy social and emotional development.

Sleep. This section provides information and strategies designed to help young children sleep.

Temperament and Behavior. Information and resources in this section focus on children's temperament characteristics and how these characteristics are vital to understanding children's behavior and the way they respond and interact with the environment and other people.

Maltreatment

This section includes resources on the impact of child maltreatment and sources of trauma such as exposure to violence, loss, or disaster. Resources for how to respond to the needs of young children and their families who have experienced trauma are provided. The topics in this section include child abuse and neglect, the impact of trauma, and Safe Babies Court Teams, a project to increase awareness about the negative impact of abuse and neglect on young children and to prevent court involvement in the lives of young children.

Early Care and Education

This section focuses on the need for high-quality, positive early learning experiences for babies and toddlers in child care. It includes information on how to identify high-quality child care for infants and toddlers; information on caring for the children of family, friends, and neighbors; and an interactive learning activity designed to help parents and caregivers support their young children's early learning.

Military Family Projects

At the bottom of the ZERO TO THREE home page is a link to a discussion of the organization's Military Family Projects. These projects are designed to support military and veteran families and their children. The goal of these projects is to increase awareness and collaboration in military and civilian communities so that professionals who work with parents and children can more effectively care for children birth to 3 years old in military-connected families. ZERO TO THREE resources available on this topic include board books for toddlers, booklets for parents, and strategy guides for professional who work with military-connected families designed to strengthen and provide a good foundation at the beginning of a child's life as well as to help build young children's resilience.

National Training Institute

ZERO TO THREE holds an annual National Training Institute designed to provide professional development opportunities for those working in early childhood education, Early Head Start, early intervention, parent education, pediatrics, and mental health. A link to information on the yearly ZERO TO THREE National Training Institute can be found at the bottom of the ZERO TO THREE home page.

Early Head Start National Resource Center

A link to the Early Head Start National Resource Center can be found at the bottom of the ZERO TO THREE home page.

Maternal, Infant, and Early Childhood Home Visiting Technical Assistance Coordinating Center (MIECHV TACC)

ZERO TO THREE is a partner in the MIECHV TACC and a link to the center can be found at the bottom of the ZERO TO THREE website home page. MIECHV TACC provides technical assistance to support programs funded through federal grants to provide home visiting services.

Free Parenting App

In addition to the resources available on its website, ZERO TO THREE offers a free parenting application titled LET'S PLAY! The app provides activities that parents can do with young children. These activities are presented by age and are designed to enhance and support young children's early learning. The application is available for download from Google Play Store and iTunes.

Conclusion

For those who work with young children and families, ZERO TO THREE is a valuable source

for current, research-based information. It also provides leadership and advocacy on behalf of young children and identifies and addresses key issues that impact the well-being of young children and their families. The organization's multidisciplinary approach brings together a wide range of research perspectives from a variety of professional specialists. ZERO TO THREE emphasizes the importance of education and intervention services for children and families and the need for professionals to work together in efforts to promote young children's overall growth, development, health, and well-being.

Carla B. Goble

See also Early Head Start; Early Intervention; Infant-Parent Relationships; Mental Health Services; National Association for the Education of Young Children; National Institute for Early Education Research

Websites

ZERO TO THREE: <http://www.zerotothree.org/>

Appendix

Resource Guide

The following agencies, professional associations, and websites are of particular relevance to the field of early childhood education.

Association for Childhood Education International (ACEI). <https://acei.org>

ACEI is an international advocacy community with a focus on promoting both quality education and positive childhood experiences for all children around the world. Membership is made up of educators and other advocates who base their perspective on current knowledge and experience in order to share information and innovation related to education for all learners, birth through adolescence. First established as the International Kindergarten Union (IKU) in 1892, it changed its name in 1946 to the Association for Childhood Education International. ACEI has a history of work related to early childhood education. The association's publications are highly regarded and include *Childhood Education*, *Journal of Research in Childhood Education*, and *Early Years Bulletin*.

Association for Supervision and Curriculum Development (ASCD). www.ascd.org

ASCD focuses on improving learning experiences for children of all ages. Since 1943, this association has engaged in advocacy and other initiatives that promote the success of each learner. An initiative that has been particularly supportive of early childhood education is known as “the

whole child.” This project is based on five tenets: (1) the importance of child health, (2) safe environments for learning, (3) active engagement and connection with school and community, (4) children’s need for supportive adults, and (5) providing appropriate academic challenges to prepare learners to participate in a global environment. The ASCD website provides detailed information about these tenets as well as an assessment tool for educational leaders to measure their efforts regarding the whole child.

Center on the Developing Child at Harvard University. www.developingchild.harvard.edu

The Center on the Developing Child at Harvard University, led by professor of pediatrics Jack Shonkoff, has focused on creating a global research and development platform with the intent of achieving optimal life outcomes for children who face adversity. The center’s work involves three functions: conducting science and translating results for nonscientists to apply in their work; designing, testing, and refining intervention strategies through both pilot projects and large-scale projects; and supporting a learning community to adopt promising projects. Results from several areas that are referred to as “deep dives” have been translated for nonscientists: lifelong health, gene-environment interaction, neglect, and early childhood mental health. With an emphasis on knowledge gained from neuroscience, reports and multimedia presentations yield

explanations for early childhood practitioners about the negative effects of neglect and trauma. On the other hand, children develop executive function and self-regulation skills for relating to their environments when they receive necessary support from families and early childhood education programs. Adults who create reliable routines for children, model prosocial behavior, and engage with children in authentic ways to create positive relationships help to foster these necessary skills.

In addition, children need opportunities for selecting and engaging in a variety of child-directed play activities, plenty of exercise, and opportunities to learn about appropriate ways to cope with stress. In short, neuroscience helps early childhood educators and families to understand that social and emotional factors, along with cognitive and academic achievements, are necessary for children's lifelong success. As increasing knowledge is gained about brain development, one of the most important concepts for understanding the importance of early childhood education is that strong brain circuits are more easily formed in the early years than engaging in interventions to modify these circuits later on.

Center on the Social and Emotional Foundations for Early Learning (CSEFEL).
<http://csefel.vanderbilt.edu>

CSEFEL is a national resource center for promoting social and emotional development to support academic success in young children from birth through 5 years of age. The center is funded by the Office of Head Start and the Child Care Bureau, and has as its mission the dissemination of evidence-based educational practices in early childhood programs. The CSEFEL website contains a treasure trove of professional development materials for implementing the pyramid model. This model has been put into practice by many early childhood educators and is known to support social and emotional competence in children from birth through 5 years. The pyramid model demonstrates that at the foundation, or base, all children need and benefit from a highly skilled

early childhood education workforce with policies in place for the application of evidence-based practices that support young children's social and emotional development.

As the title of the center indicates, the social and emotional realms are requisite for optimal early learning. The pyramid model offers additional components indicating that all children benefit from nurturing and responsive relationships in supportive learning environments with early childhood professionals. As the pyramid closes in near the apex, a component demonstrates that some children will need "targeted social and emotional supports" in order to prevent challenging behaviors or explicitly remind children about expected behavior. Finally, a few children are likely to need more intensive intervention that is designed specifically for them and based on reliable assessments. The importance of the pyramid model to early education is the designation about what all children need from high-quality early educational experiences and also that some children will need well-designed appropriate supports to maximize their potential. Examples of supports include scripted stories about various social situations, effective strategies for encouraging children with positive feedback, and explicit teaching of social and emotional skills with examples such as posters showing steps for solving problems or identification of emotions through pictures of faces that demonstrate feelings.

The CSEFEL website includes professional development modules for early childhood teachers and parents working with infants and toddlers or preschoolers. Videos that demonstrate strategies for fostering social and emotional competence, collaboration, and the pyramid model are available on the website. In addition, a series of *What Works Briefs*, available in both English and Spanish, address topics such as classroom routines and schedules, helping children to transition from one activity to another, supporting peer relationships, and what children are trying to communicate through their behavior.

Child Care Aware. www.usa.childcareaware.org

Child Care Aware is an organization that provides resources and tools for both child care providers and families, and has a primary focus of increasing the quality of the child care system. For prospective child care providers, it provides information about how to get started; writing business, management, and program plans; and information about required training. For families, the website provides details about types of child care and how to recognize quality care, along with access to an online newsletter. Members include resource and referral agencies, state network organizations, nonprofits and government agencies, as well as interested individuals such as child care providers, early childhood education students, and child and family advocates. On the website, readers will find details about implementing the Child Care and Development Block Grant (CCDBG) laws for each state and related webinars. The Family Network of Child Care Aware acts as a community of various family member advocates who are committed to increasing quality of child care programs for all children. Information is also provided about military child care programs and ways that military families may be able to get assistance to pay for child care.

**Child Care Exchange.
<https://childcareexchange.com>**

Child Care Exchange is an organization that has been providing support for professional development for early childhood educators to create positive environments for young children to thrive around the world. Founded by Roger and Bonnie Neugebauer in Redmond, Washington, its excellent magazine, *Child Care Information Exchange*, was first published in 1978 and continues to provide essential information about child development, safe and healthy environments, leadership, and staff development to child care center administrators. Other noteworthy initiatives of Child Care Exchange include the World Forum, training kits, and books. Since 1999, the World Forum has offered a unique opportunity for early education

leaders to participate in a global exchange of ideas about quality educational services for young children in a multitude of settings. Successful Forum events have been held in Honolulu, Singapore, Athens, Acapulco, Kuala Lumpur, Budapest, and San Juan, among other cities. Training kits for staff development are offered at reasonable prices and are based on current research and best practice on categories including administration, child development, curriculum, environments, family, and leadership. Each kit is based on an article from *Child Care Information Exchange* and includes suggestions for conducting and evaluating professional development sessions.

**Child Welfare League of America (CWLA).
www.cwla.org**

The CWLA is a coalition of agencies with a goal of assisting vulnerable children and families. Since 1920, the Child Welfare League of America has served as a collaborative to advance policies and practices that lead to optimal outcomes for children who may have experienced trauma such as abuse or family disruption, as well as support for adult caregivers of traumatized children. The vision that all children will have an opportunity to grow and develop within loving families and supportive communities holds a perspective that is essential to successful early childhood education. At its website, CWLA provides detailed information about both its advocacy and practice initiatives that include the essentials of high-quality care for all children.

**Children's Defense Fund (CDF).
www.childrensdefense.org**

Marian Wright Edelman, the first Black woman licensed by the Mississippi bar, founded the Children's Defense Fund in 1973 as part of her civil rights work. Over four decades, the Children's Defense Fund has served as a faith-based and unyielding advocate for improving policies and programs for all children in the United States. Attention has been given to policy needs of children and families in poverty so that all may fulfill their optimal potential. Current

policy priorities of CDF include ending child poverty; ensuring that all children have access to affordable medical care; guaranteeing that all vulnerable children have access to high-quality early childhood education such as Early Head Start, Head Start, child care, preschool, and full-day kindergarten; ensuring that elementary and secondary education serve as equalizers by riding school policies of plans that reinforce barriers created by poverty and racism; engaging in child welfare reform movements so that all children have a safe start in a permanent nurturing family; and building awareness of unfair practices in juvenile justice that have led to a cradle-to-prison system. Although the policy priorities for early childhood education and elementary and secondary education most closely relate to best practices and positive educational outcomes for young children, the comprehensive view taken by CDF supports children's needs for family, health, community, and safety—all essential for successful early education.

One CDF initiative that addresses all policy priorities is Freedom Schools, a summer and after-school literacy enrichment project for children who might not have access to books. Freedom Schools curriculum has been an important factor in helping to limit learning loss that occurs over the summer as well as in closing achievement gaps. Five components of the Freedom Schools program are high-quality learning experiences, family engagement, social action, intergenerational practices, and nutrition and health for wellness.

Children Now. www.childrennow.org

Children Now is an advocacy organization with a mission of improving the lives of children. Information on the website compares Children Now to the American Association of Retired Persons (AARP) for older adults and Chambers of Commerce for business. Three issue categories that this organization has adopted are education, health, and child welfare. Education topics that relate to early childhood include infant and toddler care, preschool investments, kindergarten

readiness, and school climate. Health topics that are addressed by Children Now and related to early childhood include health care access, home visiting, developmental and behavioral screening exams, oral health, mental health, and childhood trauma. This organization also participates in advocacy efforts to ensure that foster children receive targeted education supports and services, and points out the critical nature of stability for children.

Community Advocates for Young Learners (CAYL) Institute. www.cayl.org

The CAYL Institute, founded in 2004, has as its mission the organization, equipping, and empowering of people to create change on behalf of children. A child's right to high-quality early care and education in the United States is embedded in policy, professional practice, and parental engagement. A major offering from the Massachusetts-based organization is professional development for educators and community leaders. CAYL Institute leaders focus on sharing new ways of thinking about the needs of young learners, programs for young learners, and community involvement. A variety of policy papers are available on the CAYL Institute website, including topics such as coordinated social-emotional supports, early education and care workforce development, helping elementary school principals learn about pre-K practices, ensuring high quality, and cultural competence.

Consumer Product Safety Commission (CPSC). www.cpsc.gov

The Consumer Product Safety Commission is a United States government agency with the mission of identifying hazards and monitoring, regulating, and enforcing safety concerns. Safety education centers on the website include cribs, window covering cords, poison prevention, magnets, and pool safety. Each one of the safety centers provides details and videos about the topic. The Office of Legislative Affairs serves as an intermediary between CPSC and Congressional committees by assisting in regard to commission

policy and coordinating testimony as needed to Congress. CPSC is related to early childhood education through its attention to toy safety. In addition to regulating toy safety, CPSC provides information about safe toys by children's age through downloadable consumer guides. One publication offered by the commission, *Think Toy Safety—by Knowing Toy Dangers*, provides lists of details to consider when buying, maintaining, sorting, and storing toys for young children. Information that is especially useful to early childhood education programs deals with furnishings and playground equipment and safety.

Council for Exceptional Children (CEC).
<https://www.cec.sped.org>

The Council for Exceptional Children is a professional association that provides members with information about working with and advocating for children with exceptionalities, both special needs and giftedness. CEC leadership has created position statements and policy briefs on topics such as school vouchers, response to intervention, assessment and accountability, community-based services, and safe and positive school climate. In addition, a series of issue briefs include topics related to early childhood education, such as *Improving Outcomes for Children With Disabilities Through High-Quality Early Learning Programs* and *School Climate and Mental Health*. Among the various special interest divisions for members of CEC is the Division for Early Childhood (DEC), which has a focus on best educational practices for children from birth through 8 years of age who have a disability or other special need.

DEC publishes two journals—*Journal of Early Intervention* and *Young Exceptional Children*—as well as position statements about topics such as challenging behavior, professional ethics, inclusion, and family culture.

Council for Professional Recognition.
www.cdacouncil.org

The Council for Professional Recognition is most well known for administering the Child

Development Associate (CDA) National Credentialing Program. In order to earn a CDA, candidates must complete at least 120 hours of formal education in early childhood by completing at least 10 hours in each of eight content areas: (1) planning safe and healthy learning environments; (2) advancing children's physical and intellectual development; (3) supporting children's social and emotional development; (4) building reciprocal relationships with families; (5) managing effective programs; (6) committing to professional behavior; (7) observing and recording children's behavior; and (8) understanding principles of child development and learning. In addition, candidates must complete at least 480 hours of supervised work experience with young children. To complete the application process, candidates must prepare and submit a professional portfolio of their education and work experiences as well as pass a written exam. The CDA is a highly regarded credential and is a step toward completing a baccalaureate degree for many early childhood educators.

The mission of the Council for Professional Recognition has been to increase performance and recognition of early childhood educators who work with children from birth through age 5 years. The council is led by Chief Executive Officer Valora Washington. Washington has had a distinguished career in early childhood education and has authored many publications related to effective advocacy work.

**Department of Health and Human Services,
 Administration for Children and Families (ACF).**
www.acf.hhs.gov

Within the federal government's Department of Health and Human Services, the Administration for Children and Families exists, as stated on the home page of its website, to "promote the economic and social well-being of families, children, individuals and communities with partnerships, funding, guidance, training and technical assistance." Programs that ACF sponsors for young children and families deal with adoption, child abuse and neglect prevention and intervention,

child care, early childhood development, Head Start, foster care, and child welfare. The Children's Bureau, an office of ACF, works to decrease barriers to adoption and to assist in finding permanent families for children in the adoption system, including those who are in foster care. Initiatives relating to child abuse and neglect are also under the auspices of the Children's Bureau. Funding is provided to states and tribes for family-strengths projects and also for child abuse and neglect prevention and intervention. The Office of Early Childhood Development at ACF includes the Offices of Child Care and Head Start, as well as the Interagency Team with the mission of a federal-level collaboration to improve access to high-quality early childhood education programs. ACF works to create a strong and purposeful early learning and development system with Head Start, child care, and prekindergarten programs. In addition, ACF publishes a monthly newsletter that highlights policies and milestones related to early childhood education.

Environmental Rating Scales Institute (ERSI).
www.ersi.info

Researchers at the Frank Porter Graham Child Development Institute at the University of North Carolina at Chapel Hill created four variations of environmental rating scales as follows: infant and toddler, preschool and kindergarten, family child care, and school age before and after programs for children ages 5 to 12 years. The first scale to be developed was the Early Childhood Environment Rating Scale (ECERS) for use in evaluating preschool programs; a third edition was published in 2014. Thelma Harms, Richard Clifford, and Debby Cryer authored this edition, which is a major revision based on current evidence and is made up of 35 items in six subscales: space and furnishings, personal care routines, language and literacy, learning activities, interactions, and program structure.

The Infant/Toddler Environment Rating Scale, Revised Edition (ITERS-R), authored by Harms, Cryer, and Clifford, is made up of 39 items in seven subscales: space and furnishings, personal

care routines, listening and talking, activities, interaction, program structure, and parents and staff. Made up of 38 items and seven subscales, the Family Child Care Environment Rating Scale, Revised Edition (FCCERS-R) was authored by Harms, Cryer, and Clifford. The subscales of the FCCERS-R are space and furnishings, personal care routines, listening and talking, activities, interactions, program structure, and parents and provider. The School-Age Care Environment Rating Scale, Updated Edition (SACERS-Updated), authored by Harms, Ellen Vineberg Jacobs, and Donna Romano White, contains 49 items in seven subscales: space and furnishings, health and safety, activities, interactions, program structure, staff development, and special needs. The purpose of each scale is to assess quality of classroom processes in various age groups or environments. The Environmental Rating Scales have high reliability and validity, and all data are collected through observation. Observations based on the items in each scale lead to useful program evaluation data. Because of the ease of data collection and content validity, the Environmental Rating Scales are widely used in various quality systems for child care.

Families and Work Institute (FWI).
www.familiesandwork.org

In 1989, Ellen Galinsky and Dana Friedman founded the Families and Work Institute as a non-profit think tank and action tank to study changes in the workforce, families, and communities in three primary categories: the workplace, youth, and early childhood. Some current topics of study are effective workplaces; life skills and executive function; children, youth, and learning; quality of education; community schools; and the low-wage workforce and upward mobility. Attention to the realm of early childhood has led FWI to identify seven evidence-based life skills that every child needs to succeed. The skills are focus and self-control; perspective-taking; communicating; making connections in their worlds; critical thinking; taking on challenges; and self-directed engaged learning. Galinsky has authored a book, *Mind in*

the Making: Seven Essential Life Skills Every Child Needs, which describes each of the necessary life skills as well as ways that families and teachers might best support development of these skills. The FWI website has an extremely useful teaching tool for supporting the life skills: a listing of children's books that are aligned with the appropriate skill and age group, as well as downloadable tip sheets for reading each of the books. *Mind in the Making* has gone beyond the confines of a useful book for parents and teachers of young children to an initiative with national attention. Parent and early childhood teacher education programs are in place as well as a series of lectures and forums. The seven life skills provide an effective basis for curriculum development in early childhood education. A discussion guide can be found on the website that serves as an effective tool for both parents and teachers to better understand meaning and strategies for each of the seven life skills for children.

Harvard Family Research Project (HFRP).
<http://hfrp.org>

Since 1983, the Harvard Family Research Project has provided a national focus on partnership perspectives related to family and community engagement research, practices, and policies. It is the intent of HFRP to increase policy and program support for learning across multiple settings: schools, homes, and communities. Specific to early childhood education, HFRP emphasizes that family and community partnerships need to be built into all school practices in order to best promote children's development and learning. Six areas of practice have been identified as key to influencing positive child outcomes: educational program environment, child transitions, engaging families as teachers, home visiting, educator-family reciprocal relationships, and community partnerships. Staff at HFRP note that these practices will only be effective when necessary foundations are considered; these foundations are professional development regarding family and community engagement, education program leadership that is knowledgeable and supportive of family and

community engagement, and ongoing evaluation that leads to continuous improvement. At the HFRP website, resources are available to provide details about each of the six areas of practice and the three foundational premises. Several one-page digests relate family engagement topics to early education settings with applied information; they include *Helping Parents Communicate Better With Schools* and *Families and Teachers as Partners*.

HFRP supports a community of educators, policy makers, and researchers who are committed to strengthening partnerships among schools, families, and communities. Known as Family Involvement Network of Educators (FINE), members of this collaborative have access to resources and ideas free of charge. All perspectives are based on current research in the areas of family involvement in children's education. Newsletters are published four times a year and web chats are available.

Heckman Equation.
www.heckmanequation.org

The Heckman Equation website contains economic information related to early childhood education. Nobel Prize-winning economics professor James Heckman suggests that investments in early childhood development and education are the basis for the development of human potential. Through the eyes of an outstanding economist, this website indicates the far-reaching impacts for a society that values and provides early educational experiences, especially for at-risk children. Heckman notes that improvements to the economy, reducing the deficit, and strengthening the middle class are national priorities in the United States and that all of these issues can be addressed through high-quality early childhood education programs. According to Heckman, a proactive approach of early childhood education decreases the achievement gap; coordinated and comprehensive birth to 5 years programs have been shown to improve children's health; children who participate in quality early intervention programs earn better wages as adults; and the rate of return for investing in early education is 7% to 10% annually through more positive outcomes

in educational attainment, health, social competence, productivity, and reduction in criminal behavior.

Heckman takes on the myth in regard to fade out of positive outcomes from early childhood education by addressing the limited information given by third-grade test scores. Tests that measure only cognitive gains are skipping over the importance of social and emotional skills necessary for life success. Characteristics such as conscientiousness, motivation, self-control, persistence, and sociability have been shown to be essential for workplace and family success. The Heckman Equation website has provided strong arguments for providing high-quality early childhood education, especially for children of families with risk factors. The economic perspective gives additional weight to the whole child perspective in early childhood education.

Home Instruction for Parents and Preschool Youngsters (HIPPY). www.hippy-international.org

Home Instruction for Parents and Preschool Youngsters is an international venture for parents and their 3- to 5-year-old children that began in Israel and is now present in at least 10 countries, including the United States. Concerned with equal educational opportunity and inclusive practices, HIPPY is especially successful with families and communities who have socioeconomic challenges as it supports parents and other caregivers to foster children's school readiness and motivation. With an ambitious agenda, HIPPY programs intend to nurture parent confidence in teaching their children, build positive parent-child interactions, create interest in and love for books, and assist families to engage in their communities and to gain work experience and skills. As indicated in the title of the program, HIPPY takes the curriculum for young children and their parents into their homes and provides one-on-one support to parents as they create an environment with many rich learning opportunities for their children. Through this approach, parents receive job training and establish goals for additional work-related possibilities. The curriculum focuses on how to prepare

children to have positive school experiences through language development, perceptual and sensory discrimination, logical thinking, and problem solving. Strategies for addressing these outcomes include reading, writing, singing, rhyming, drawing, cooking, and putting together puzzles. Both short- and long-term outcomes have resulted from HIPPY program experiences. Stronger parent-child relationships, children's readiness for school, parent increase in child development knowledge, and creating rich learning environments at home are some of the many short-term outcomes. Long-term outcomes are increased high school graduation rates and breaking away from a cycle of poverty.

International Literacy Association (ILA). <http://literacyworldwide.org>

Since 1955, ILA (formerly the International Reading Association—IRA) has focused on the importance of literacy instruction through research on best instructional practices and professional development for teachers of reading. The change in name came about as leaders and members of the association chose to promote their belief that “literacy is the primary foundation of all learning.” ILA has set 11 assessment and teaching standards for all literacy educators who work with any age group, preschoolers through adults. Among the standards are that student interests are paramount in assessment, teachers are the most important agents of assessment, assessment exists to improve teaching and learning, assessment must be fair and equitable, and families must be active, essential partners in the assessment process. Journals that are published by ILA include *Literacy Today*, *The Reading Teacher*, *Journal of Adolescent and Adult Literacy*, and *Reading Research Quarterly*. In addition to publications, ILA advocates for resources necessary for enhancing children's comprehension skills and the concerns that exist in regard to current practices of high-stakes testing. Further, ILA is developing and managing multiple global projects that address literacy concerns in the developing world. In relation to early childhood

education, it is clear that literacy practices are an essential component of high-quality education for young children. ILA has partnered with the National Association for the Education of Young Children to create the position statement *Learning to Read and Write: Developmentally Appropriate Practices for Young Children*. This position statement reflects on current issues regarding young children's learning reading and writing, reviews the research, and provides recommendations for both policies and practices. Suggestions are categorized for preschool-age children, kindergartners, and primary-age children so that readers are able to get a sense of developmental differences and expectations.

McCormick Center for Early Childhood Leadership. www.mccormickcenter.nl.edu

The McCormick Center for Early Childhood Leadership, located on the campus of National Louis University, was founded by Paula Jorde Bloom in 1985. As a leadership institution, the McCormick Center currently focuses on early childhood educator professional development, evaluation of programs, research, and public awareness about the importance of the early years. Serving as a voice for the early childhood workforce, staff at the McCormick Center continually advocate for better working conditions and compensation, provide support for early childhood leaders from underrepresented groups, and work to strengthen standards.

Various resources and professional training programs are offered through the center, including an online national credential for directors of early education programs, a program administration measurement scale that is intended to assist with quality improvement of early childhood organizational leadership, and a national conference focused on topics for early childhood education leaders. Research indicates that strong, effective leaders in early childhood education make a difference in quality programming for young children and families. One useful resource available on the website is a series of tip sheets that provide assistance to early educators as they complete the

Infant/Toddler Environment Rating Scale, the Early Childhood Environment Rating Scale, the School-Age Care Environment Rating Scale, and the Family Child Care Environment Rating Scale-Revised.

National Association for Family Child Care (NAFCC). www.nafcc.org

The National Association for Family Child Care is a nonprofit organization that is dedicated to fostering quality in family child care environments. Family child care is provided to infants, toddlers, preschoolers, and/or school-age children in a caregiver's home. Such settings, when warm and caring, serve as effective environments for children's development and learning. One very important benefit is that children have a consistent caregiver throughout their early years. A standards-based accreditation system is in place through NAFCC that assures families that their children are receiving high-quality care. In addition to providing support for members who provide family child care, NAFCC also is involved in advocacy and public policy concerns. Information is available on the website regarding related federal budget issues and initiatives such as the Strong Start for America's Children Act, which would include high-quality family child care in early childhood education systems. The leadership and membership of NAFCC have demonstrated the importance of family child care as a viable component of early education in contemporary society.

National Association for the Education of Young Children (NAEYC). www.naeyc.org

NAEYC sets standards and provides resources to help early childhood professionals. It advocates for enhancing early childhood program quality; strengthening professional development, practice, and working conditions of program staff; and helping families learn about and understand the need for high-quality early childhood education. Position statements on NAEYC's website include one outlining its position on developmentally appropriate practice and explaining in detail the

components of this manner of teaching young children. See the encyclopedia entry on NAEYC for more information on the organization.

National Association of Early Childhood Teacher Educators (NAECTE). www.naecte.org

The National Association of Early Childhood Teacher Educators is a membership-driven professional association that is interested in all aspects of teacher preparation for early childhood education professionals. Among the stated purposes of the association are advocating for improvements in early childhood teacher education, providing a forum for issues and concerns related to early childhood teacher education, and collaboration with other related professional associations. An outstanding publication, *The Journal of Early Childhood Teacher Education*, is published quarterly and contains original research, research reports, letters to the editor, and book reviews.

NAECTE has jointly created a supplemental position statement, *Code of Ethical Conduct for Early Childhood Adult Educators*. This paper has been essential in helping early childhood teacher educators to be inspired and guided in regard to application of the code of ethics in their work with early childhood teacher candidates and practicing teachers. Additionally, a position statement on early childhood teacher certification along with a toolkit for using the position statement has been created by the NAECTE Advocacy Committee. Supported by seven professional associations, this position statement calls for ensuring that all teachers of young children have the appropriate preparation and skills for working with young children.

National Black Child Development Institute (NBCDI). www.nbcdi.org

The National Black Child Development Institute was founded in 1970 under the leadership of Evelyn K. Moore, who began her career with the Perry Preschool/HighScope program. NBCDI is an advocacy group that works with policy makers, child development professionals, and families in regard to urgent issues, such as early childhood education, health, and literacy,

that impact Black children from birth through age 8 years and their families. The vision of this association is focused on ensuring positive futures for all children, with an emphasis on Black children and families who have been affected by both poverty and racism. A current advocacy topic that NBCDI is addressing is the application of the PreK–3rd framework as one that will help Black children to succeed. Components of this framework that are noted to be especially critical for the positive development and learning of Black children include effective instruction across consecutive years; positive relationships between children and teachers, family, and community partnerships; emphasis on social and emotional foundations for early learning; access to high-quality early childhood education including pre-K and kindergarten; and seamless transitions as children move from one program to another. A recent publication from this association, titled *Being Black Is Not a Risk Factor*, aims to counteract the emphasis on the limitations and deficits of Black children and lack of consideration for their strengths and resilience.

National Council for the Social Studies (NCSS). www.socialstudies.org

The National Council for the Social Studies is a professional association concerned with the teaching and learning of social studies for students of all ages. Social studies experts have produced national curriculum standards that are centered around 10 themes: culture; legacies of the past; people, places, and environments; individual development and identity; interactions among individuals, groups, and institutions; structures of power, authority, and governance; organization for production, distribution, and consumption of goods and services; relationships among science, technology, and society; global connections and interdependence; and ideals and practices of citizenship. All themes would be planned and implemented with developmentally appropriate content and pedagogy.

The NCSS Board of Directors approved a report from its Task Force on Early Childhood/Elementary Social Studies that established a

definition and goals for social studies and young children. Evidence from research about children's cognitive abilities at various ages has been incorporated into the position statement. For example, kindergartners are able to engage in citizenship education and may be supported by adults to become good citizens in the classroom and by age 7, children are able to understand work, wants, and scarcity in terms of decision making. It is during children's early years that they begin to form attitudes and values about society. For this reason, including social studies in appropriate ways is essential to children's learning about living in the social sphere.

National Council of Teachers of Mathematics (NCTM). www.nctm.org

The National Council of Teachers of Mathematics, founded in 1920, is the world's largest organization related to math education. As its mission, NCTM provides support to teachers through leadership, professional development, and research to ensure high-quality and equitable math learning experiences. Attention has been given to appropriate and effective early childhood methods for teaching mathematics. NCTM defines early childhood math education for children from pre-K through second grade, including an early childhood corner in its journal, *Teaching Children Mathematics*.

According to *Mathematics in Early Childhood Learning*, an NCTM position statement, prekindergarten programs should be expanded so that all young children have access to high-quality instruction in mathematics. Early math experiences that are engaging and encouraging lead children to developing confidence in their ability to apply mathematics to everyday situations. Based on research and best practices, NCTM leadership describes five content standards and five processes or ways of applying content standards. Content standards are number and operations, algebra, geometry, measurement, and probability. Process standards are problem solving, reasoning and proof, communication, connections, and representations. Information on the website indicates that

well-prepared and highly qualified teachers are essential for children's optimal learning of mathematics concepts and practices.

National Council on Family Relations (NCFR). www.ncfr.org

The National Council on Family Relations is a nonprofit professional association that emphasizes the importance of a multidisciplinary understanding of families. Founded in 1938, the common thread for all members is understanding and strengthening families in research, policy, and practice. NCFR publishes three journals: *Journal of Marriage and Family*, *Family Relations: Interdisciplinary Journal of Applied Family Studies*, and *Journal of Family Theory and Review*. The membership in NCFR is noteworthy in terms of diverse professions and practice, including family science researchers, counselors, university faculty, clergy, social workers, public health professionals, family therapists, K–12 teachers, and family life educators. This association relates to early childhood education in that understanding and forming partnerships with families is an essential component of high-quality early education programs.

The Certified Family Life Education (CFLE) credential is one aspect of NCFR's work. Content required for certification as a family life educator includes families and individuals in societal contexts; internal dynamics of families; human development across the life span; human sexuality; interpersonal relationships; family resource management; parent education and guidance; family law and public policy; professional ethics and practice; and family life education methodology. Early childhood education professionals can benefit from knowledge and applications in these content areas through either their own professional development or consultation from a certified family life educator. The Professional Resource section of the NCFR website provides access to articles and videos that are supportive of effective early childhood education practices. For example, a 5-minute video with surgeon Dana Suskind explaining her Thirty Million Words Initiative applies evidence from research that parents foster

children's brain development when they have conversations with their young children; another 1½-minute video is titled "On How to Support Parents."

National Head Start Association (NHSA).
www.nhsa.org

NHSA is a not-for-profit organization that supports Head Start grantees and participating children and staff members and advocates for policy changes to allow all eligible children to benefit from Head Start. For more information on NHSA, see the encyclopedia entry on the organization.

National Institute for Early Education Research (NIEER). **www.nieer.org**

NIEER conducts and disseminates nonpartisan research and policy analysis about early education. It is known for its annual report on the state of preschool in the United States that is based on a survey of all state-funded pre-K programs. For more information on NIEER, see the encyclopedia entry on the organization.

National Network of Partnership Schools (NNPS).
<http://nnps.jhucsos.com>

The National Network of Partnership Schools, an initiative of the Center on School, Family, and Community Partnerships, was established at Johns Hopkins University in 1996. Geared toward all levels of elementary and secondary education, NNPS applies research about parent involvement in children's education, family engagement, and community collaborations. Joyce Epstein, founder and director of NNPS, leads efforts to study ways to increase family engagement that will optimize children's learning and academic success. The NNPS website provides information about organizing school, district, and state models. The school model involves establishment of an action team, applying six types of involvement (parenting, communicating, volunteering, learning at home, decision making, and collaborating with communities), a 1-year action plan for partners, and a program evaluation. A handbook is available that walks teams

through each aspect of the partnership process. Although early childhood is not extricated as a separate discipline by NNPS, many suggestions and examples are available at the website for families of kindergarten through third-grade students.

National Parent Teacher Association (PTA).
www.pta.org

The National PTA was founded by Alice McLellan Birney and Phoebe Aspersen Hearst in 1897 (before women had the right to vote) and known as the National Congress of Mothers, with the mission of increasing the quality of life for all children through education, health, and safety. The National PTA is now the largest volunteer child advocacy group in the United States and has voiced the importance of programs and legislation to improve children's lives that include kindergarten classes, child labor laws, hot lunch programs, arts in education, and school safety. PTA serves as a grassroots organization with over 20,000 local units that have become strong assets to school communities through sharing of parent involvement information, resources, and activities. On its website, the PTA presents an Advocacy Toolkit with a plethora of topics such as how a bill becomes a law, corresponding with members of Congress, working with the media, and preparing testimony.

Although National PTA does not differentiate with specific attention to early childhood education, much of the information on the website and through membership relates to all K–12 levels. In addition to the Advocacy Toolkit, another useful tool on this website is called National Standards for Family-School Partnerships. The six standards are based on the research of Joyce Epstein from the National Network of Partnership Schools (NNPS) at Johns Hopkins University. The standards are welcoming all families, communicating effectively with families, supporting student success, speaking up for every child, sharing power, and collaborating with community. Examples are provided for each of the standards.

Parents as Teachers (PAT).
www.parentsasteachers.org

Parents as Teachers is led by a board of directors that is committed to the vision and mission of PAT. PAT is a program that works with parents and families during children's earliest years—from conception through prekindergarten, with an effective emphasis on early childhood education. The work is accomplished through development of curricula that supports parents as they engage their children to prepare for school and to ensure healthy development. Because the staff at PAT has an enduring commitment to research and evidence-based practices, they prepare professionals through practical hands-on experiences for parents as they engage their children in the real world. PAT also supports early intervention and parent engagement in early childhood education through various advocacy efforts.

The PAT model applies current research for a high-quality home visiting paradigm. Four major goals have been established: to increase parent knowledge of child development that will lead to improved parenting, to provide early detection of children's developmental delays and health

concerns, to prevent child abuse and neglect, and to increase children's school readiness and academic success. Results of PAT practices have been examined through independent evaluation with outcome data that support the program's successes: parents increase their engagement with children that promotes language and literacy; parents improve their knowledge, behavior, and attitudes about parenting; and parents are involved in children's schools. The website includes various resource materials such as a toolkit for promoting responsible fatherhood, partnering with teen parents, and goals of a tribal home visiting program.

ZERO TO THREE. www.zerotothree.org

ZERO TO THREE is a national, nonprofit organization focused on the well-being of children birth to 3 years of age. The organization provides information on education and intervention services for children and families that promote children's overall growth, development, health, and well-being within the context of family and culture. For more information on ZERO TO THREE, see the encyclopedia entry on the organization.

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